HARMAN
PROFESSIONAL

2012 Full-Line Catalog

CROWN®
by HARMAN

HiQnet® AKG® BSS® CROWN® dbx® JBL PROFESSIONAL® lexicon® Soundcraft® STUDER®

Introduction: *Corporate Overview*

Intelligent Power. Unleased. For 60 years, Crown has designed and manufactured professional power amplifiers, microphones and computer-controlled audio components and software with pride and innovation. Crown products are developed for a wide range of uses, from mobile PA systems for musicians and DJs to large installations in stadiums and arenas. Incorporating the best of proven technologies and state-of-the-art advances, including the latest in integrated, network-controlled audio, Crown continues to be the intelligent choice for professional audio.

Drawing from a heritage of over 30 years in mixing console design and manufacture, Soundcraft has developed a unique insight into professional audio requirements. From live sound to recording and broadcast, Soundcraft mixing consoles are built to perform and are responsible for delivering thousands of events day after day all around the world. With professional features, intuitive operation and uncompromised sound quality, Soundcraft has built a global reputation for delivering optimum performance every time.

BSS Audio has amassed an international reputation for providing reliable equipment that addresses the real needs of musicians. BSS's name can also be found in recording studios and in broadcast studio output. Their products, either live sound systems or fixed installations, are thoroughly researched and tested. The results are powerful, ergonomically packaged equipment. The complete reliability gained through the excellent design and quality assurance is why top performing artists and theatres throughout the world regularly choose BSS Audio systems.

For over 60 years, the Studer name has been synonymous in the world of professional audio with innovation, elegant design and unsurpassed excellence in engineering. Today, Studer is acknowledged as the leader is Digital Mixer Technology and offers the widest range of digital broadcast consoles and system components available from any manufacturer.

AKG's remarkable microphones and headphones are a synthesis of leading-edge industrial design, innovative electronics and world-class acoustics. AKG is also a technological powerhouse with over 1,500 international patent applications and the largest, best-equipped research and development facilities in the world. For over 60 years, AKG has used its considerable expertise and know-how to develop products that serve markets as diverse as music, recording and broadcast to permanent installation. For its many customers, "it all comes back to the sound" and as long as good sound and long, useful product life are important, they will keep coming back to AKG.

Harman Pro's HiQnet® finally enables system components to reach beyond themselves. From microphone to speaker, the whole is at last greater than the sum of the parts. With a single software application at its heart, HiQnet® is complex enough to handle system-wide configuration, routing, and control, flexible enough to traverse any cable, and intelligent enough to be truly plug 'n' play. Now we all speak one language. With HiQnet® it simply is as simple as connect, configure and control.

What makes dbx the most well-respected dynamics processing company? Besides years of leadership and expertise in the processing field, we have combined our detection and summing methods, known as True RMS Level Detection and True RMS Power Summing, to be "true" to the sounds that are heard by the human ear. dbx has patented integrated circuit designs that can detect and then process natural sounds over a broad range of signals. Wouldn't all musicians want their voices to be heard at their best?

Playback the last 60 years of music and motion picture recording and one name stands alone: JBL. Before THX and Dolby, before stereo and even hi-fi, there was JBL. Today, JBL's well-earned reputation has placed its speakers in all types of professional institutions, including legendary recording studios, famous concert venues and premier movie houses. Throughout those 60 years of technical breakthroughs, award winning designs and continuing innovations the facts still remain: JBL loudspeakers continue to be the one benchmark for quality, the singular reference for accuracy in the playback of recorded sounds; the leader, the innovator, the authority.

Lexicon measures its success by the simple fact that they are the world-wide choice in digital processing by engineers, producers and performers. Their uncompromised integrity has proven to be extremely successful over the years. History was made when our Reverb line was introduced at the 1978 AES Convention. It was considered the first commercially viable digital reverb system. Lexicon's innovations haven't stopped since. We continue to forge strategic partnerships that will ensure that our systems

Introduction: *Contact Information*

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Full Line Catalog | 2012

Installed Sound

Commercial Audio

Portable PA

Tour Sound

Cinema Sound

INSTALLED

Crown installed Sound Product Line

ComTech DriveCore™ Series

CTs 2-Channel Series

SOUND

CTs Multi-Channel Series

CDi Series

ComTech DriveCore Series: **The New Standard**
CT475, CT875, CT4150, CT8150

FLEXIBILITY

FEATURES

- High power density: Four/eight-channel models in a 1U chassis
- DriveCore technology
- Light weight design
- Convection (Fan-less) cooled
- Life safety features
- Cascading inputs for added flexibility

POWER OUTPUT*

Models	8-ohm Dual (per channel)
CT 475	**75W**
CT 875	**75W**
CT 4150	**125W**
CT 8150	**125W**

*Average power in watts at rated THD, 20 Hz - 20 kHz.

SPECIFICATIONS

Frequency Response (at 1 watt, 20 Hz - 20 kHz): <0.5 dB.

Signal to Noise Ratio below rated power (20 Hz to 20 kHz): 110 dB A-weighted.

Total Harmonic Distortion (THD) at 1 watt, from 20 Hz to 20 kHz: < 0.05%.

Intermodulation Distortion (IMD) < 0.05% (typical).

Crosstalk (below rated power, 20 Hz to 1 kHz): > 70 dB.

Common Mode Rejection (CMR) (20 Hz to 1 kHz): >70 dB.

DC Output Offset (shorted input): < ±5 mV.

Input Impedance (nominal): 20 kilohms balanced, 10 kilohms unbalanced.

Maximum Input Level (before input compression): + 20 dBu.

Voltage Gain (at maximum level setting), 1.4V sensitivity, 4/8 Ohm Operation: 20:1 (26 dB);

AC Line Voltage and Frequency Configurations Available (±10%): 120V/60 Hz, 220/230/240V/50 Hz.

Power Draw at Idle (120VAC mains, all channels in 4/8 ohm mode): 5W.

Cooling: Fanless convention cooled

Dimensions: 19 in. (48.3 cm) W x 1.75 in. (4.4 cm) H x 14.25 in. (36.2 cm) D. (This applies to all models)

Weight (Net, Shipping): 10 lb (4.5 kg), 15 lb (6.8 kg). (This applies to all models)

Front Panel Controls and Indicators

Ready Indicator: Green LED, one per channel, illuminates when the channel is initialized and ready to produce audio output.

Signal Indicator: Green LED, one per channel, illuminates to indicate the presence of analog input signals above –40 dBu.

Clip Indicator: Red LED, one per channel, illuminates when the THD of the channel's output signal rises to a level typically considered as the onset of audible clipping. The Clip Indicator also will illuminate during Thermal Level Control (TLC) or input overload.

Thermal Indicator: Red LED, one per channel, flashes when thermal stress.

Fault Indicator: Red LED, one per channel, flashes when a fault condition has occurred in the channel.

Power Indicator: Blue LED indicates amplifier has been turned on and AC power is available. Indicator also flashes if the amplifier shuts off due to an under-/over-voltage condition on the AC mains.

Power Switch: Amplifier is on when the switch is in the IN position. Indicator flashes if the amplifier shuts off due to an under/over voltage condition on the AC mains or if the amplifier is in DEEP SLEEP mode and the power button is pushed.

Back Panel Controls and Connectors

AC Power Cord Connector: IEC inlet, type 320;
100/120VAC units: 15A;
220/230/240VAC units: 10A.
Voltage is indicated above IEC inlet.

Output Connectors: 8-PIN Phoenix Connectors for every four channels.

Input Connectors: Removable Phoenix-style barrier connectors for balanced input.

High-Pass Filter: A fixed 70-Hz high-pass filter settings. The high-pass filter can be set by using the DIP switch located on the back panel.

Auto-Standby: After 30 minutes of idle, amp will go into Standby. Amplifier will come out of Standby once signal is recieved.

Green Power: Crown's most efficient mode of operation. The power consumption of the amplifier will only match the input load. This means that the amplifier will operate at maximum efficiency at all times.

Input/Output Switches: The ampliefier can be configured so that input signals can be routed to multiple outputs.

LifeSafety: Amplifier will produce a 2Hz "heart beat" pulse on a 12VDC signal indicate amplifier is operationg within non-fault condition.

Options

XFMR 4/8: This is a rack-mountable transformer that allows 100V/70V output from the amplifier, and allows other amplifiers without direct constant voltage output to be easily integrated into distributed systems.

Protection Systems

Thermal Level Control (TLC): If an amplifier channel starts to overheat, the TLC circuit will engage that channel's input compressor. By compressing the input, the amplifier will not generate as much heat and will have a chance to cool down. The degree of compression is proportional to the amount of overheating. If the channel becomes too hot for safe operation even after full TLC limiting, the channel will shut off, and the Thermal Indicator for that channel will flash brightly to alert the user that a state of thermal stress or overload has cause the channel to shut down.

FIT (Fault Isolation Topology): Isolates faults within affected channels.

Fault: If an amplifier channel requires service, the corresponding Fault indicator will illuminate to alert the user of this condition. If this occurs, return the amplifier to the Crown factory or to an authorized Crown service center.

AC Under-/Over-Voltage Protection: If the AC line voltage varies out of an acceptable range, the amplifier's power supply turns off and the blue Power LED flashes. The amplifier will turn back on when the AC line voltage returns to safe operating levels.

Models	Under-Voltage Limit	Over-Voltage Limit
100VAC	90VAC	110VAC
120 VAC units	108VAC	132VAC
220V/230V/240V units	198VAC	264VAC

Power Fuse: A fuse protects the amplifier from excessive AC current draw.

Inrush Limiting: A soft-start circuit in the power supply minimizes the amplifier's current draw during power-on.

Regulatory Certifications

Crown's CT DriveCore Series offers wide flexibility for a wide range of installed sound applications. These amplifiers offer independent selection of high- and low-impedance operation for each channel pair, making these amps ideal for multi-zone installations.

INSTALLED SOUND

CTs Series: **The Standard**
CTs 600, CTs 1200, CTs 2000, CTs 3000

FOUNDATION

FEATURES

- High power density. All two channel models in a 2U chassis
- Crown Switching Power Supply for lighter weight
- "Constant-Voltage" or low-impedance operation per channel
- Fully PIP2-compatible

POWER OUTPUT*

Models	2-ohm Dual (per channel)	4-ohm Dual (per channel)	8-ohm Dual (per channel)	16-ohm Dual (per channel)	70V Dual (per channel)	100V Dual (per channel)	4-ohm Bridge	8-ohm Bridge	16-ohm Bridge	100V Bridge	140V Bridge	200V Bridge
CTs 600	**150W**	**300W**	**300W**	**300W**	**300W**	**300W‡**	**300W**	**600W**	**600W**	**600W‡**	**600W**	**600W‡**
CTs 1200	**250W**	**600W**	**600W**	**300W**	**600W**	**600W‡**	**500W**	**1,200W**	**1,200W**	**1,200W‡**	**1,200W**	**1,200W‡**
CTs 2000	**1,000W**	**1,000W**	**1,000W**	**625W**	**1,000W**	**1,000W**	**2,000W**	**2,000W**	**2,000W**	**2,000W**	**2,000W**	**2,000W**
CTs 3000	**1,500W**	**1,500W**	**1,250W**	**625W**	**1,500W**	**1,500W**	**3,000W**	**3,000W**	**2,500W**	**3,000W**	**3,000W**	**3,000W**

*Maximum average power in watts at rated THD, 20 Hz - 20 kHz. ‡With T-170V or TP-170V.

SPECIFICATIONS

Frequency Response (at 1 watt, 20 Hz - 20 kHz): ±0.25 dB.

Signal to Noise Ratio below rated power (20 Hz to 20 kHz): 105 dB A-weighted.

Total Harmonic Distortion (THD) at full rated power, from 20 Hz to 20 kHz: CTs 600/1200: < 0.1%. CTs 2000/3000 < 0.35%.

Damping Factor: 10 Hz to 100 Hz: > 3000.

Crosstalk (below rated power, 20 Hz to 1 kHz): > 80 dB.

Common Mode Rejection (CMR) (20 Hz to 1 kHz): 50 dB.

DC Output Offset: < ±2 mV.

Input Impedance (nominal): 10 kilohms balanced, 5 kilohms unbalanced.

Maximum Input Level: +20 dBu before input compression, +32 dBu absolute maximum.

Load Impedance: (Note: Safe with all types of loads)

CTs 600/1200
Stereo: 2/4/8/16 ohms, 70V, 100V
Bridge Mono: 4/8/16 ohms, 140V.

CTs 2000/3000
Stereo: 2/4/8/16 ohms, 70V, 100V
Bridge Mono: 4/8/16 ohms, 140V, 200V.

Voltage Gain (at maximum level setting):

8/4 ohm operation, 1.4V sensitivity
CTs 600 35:1 (31 dB)
CTs 1200 50:1 (34 dB)
CTs 2000 63.9:1 (36 dB)
CTs 3000 71.4:1 (37 dB).

26 dB: 20:1 (26 dB).

70V operation, 1.4V sensitivity or 100V operation, 2.0V sensitivity: 50:1 (34 dB).

AC Line Voltage and Frequency Configurations Available (±10%): 120VAC/60Hz, 230VAC/50 Hz.

Power Draw at Idle (120VAC mains):

CTs 600/1200: 24W (standby mode)
CTs 2000/3000: 35W (standby mode).

Cooling: Continuously variable speed forced air, front-to-back airflow.

Dimensions: 19 in. (48.3 cm) W x 3.5 in. (8.9 cm) H x 14.25 in. (36.2 cm) D.

Weight: Net, Shipping
CTs 600: 22.8 lb (10.3 kg), 27.7 lb (12.6 kg)
CTs 1200: 23.4 lb (10.6 kg), 28.3 lb (12.8 kg)
CTs 2000: 27.0 lb (12.2 kg), 32.0 lb (14.5 kg)
CTs 3000: 27.7 lb (12.6 kg), 32.7 lb (14.8 kg).

Front Panel Controls and Indicators

Bridge Mode Indicator: Yellow LED illuminates when the rear-panel Mode Switch is set to the "Bridge" position.

Ready Indicator: Green LED, one per channel, illuminates when the channel is initialized and ready to produce audio output. Indicator is off when PIP puts the amplifier in standby mode via the control system.

Signal Indicators: Three green LEDs per channel indicate the amplifier's input and output signal levels.

Signal: input signal is above –40 dBu.
–20 dB: amplifier output is 20 dB below clipping.
–10 dB: amplifier output is 10 dB below clipping.

Clip Indicator: Red LED, one per channel, illuminates when the channel's output signal reaches the onset of audible clipping. The Clip Indicator also will illuminate during Thermal Level Control (TLC) limiting or when the input compressor/limiter is protecting the amplifier from input overload.

Thermal Indicator: Red LED, one per channel, illuminates when the channel has shut down, or is very near shutting down, due to thermal stress or overload.

Fault Indicator: Red LED, one per channel, flashes when the amplifier output channel has stopped operating.

Data Indicator: Yellow LED indicates control data activity (if the amplifier is equipped with HiQnet control, and connected to a control system).

Power Indicator: Blue LED indicates amplifier has been turned on and AC power is available. The LED will flash when the AC line voltage is 15% above or 25% below the nominal rated value.

Cooling Vents: Front-to-rear forced airflow.

Power Switch: Push-on / push-off switch.

Back Panel Controls and Connectors

Power Cord Connector: Standard 15 amp IEC inlet. Voltage is indicated above IEC inlet.

Reset Switch: Resets the circuit breaker that protects the power supply.

Speaker Connectors: One four-pole touch-proof terminal strip. Accepts up to 10 AWG terminal forks.

Input Connectors: Balanced 3-pin terminal block connector, one per channel, on the standard PIP2-BBY module.

Channel Level Control: One 21-position detented rotary attenuator per channel, ranging from minus infinity (–70 dB) to 0 dB gain.

Mode Switch: Two-position switch is used to select the amplifier's mode of operation: Dual or Bridge-Mono.

Highpass Filter: One 3-position switch per channel selects between OFF, 35Hz and 70Hz 3rd-order filters.

"Y" Input Switch (Located on the PIP-BBY Module): When set to ON, this switch parallels the input signals of the two channels for use when the input signal is mono. Also can be used to daisy-chain the signal to another amplifier.

Ventilation Grille: Front-to-rear forced airflow.

Options

PIP2 modules, including the PIP-Lite, PIP-USP3/CN, and PIP-USP4/CN.

Protection Systems

Thermal Level Control (TLC): If an amplifier channel starts to overheat, the TLC circuit will engage the input compressor. By compressing the input, the amplifier will not generate as much heat and will have a chance to cool down.

Junction Temperature Simulation (JTS): In the CTs 600/1200, if excess power is demanded, JTS circuitry limits the drive level of the output devices to a safe range, preventing damage.

Fault: The amplifier will light the Fault LED if the amplifier output stage stops operating.

AC Under-/Over-Voltage Protection: If the AC line voltage drops below 25% or rises above 15% of the nominal operating voltage of the amplifier, the amplifier's power supply turns off and the blue Power LED flashes. The amplifier will turn back on when the AC line voltage returns to safe operating levels.

Circuit Breaker: This breaker protects the amplifier from excessive AC current draw.

DC Output Servo: The output servo circuit protects your drivers by eliminating DC offset, even in the presence of very large asymmetrical signals.

In-rush Limiting: A soft-start circuit in the power supply minimizes the amplifier's current draw during power-on.

Variable-speed Fan: Two continuously variable speed fans direct the airflow through the amplifier for cooling.

Regulatory Certifications

Other Applications

Cinema

Crown's CTs Series amplifiers provide exceptional performance, flexibility and value for installed sound applications. CTs Series amplifiers feature independent selection of high and low impedance operation for a specific channel, plus power levels and features that were carefully chosen to match the requirements of fixed install design. Easy integration with HiQnet™ and CobraNet™ allows CTs amplifiers to deliver a comprehensive lineup of monitoring and control features along with digital audio transport for an award-winning digital audio solution.

INSTALLED SOUND

CTs Multi-Channel Series: **The Standard**
CTs 4200, CTs 8200

FLEXIBILITY

FEATURES

- High power density: Four-channel model in a 2U chassis, eight-channel model in a 3U chassis
- Crown Switching Power Supply for lighter weight
- Selectable “Constant-Voltage” or low-impedance (4/8 ohm) operation per channel-pair.
- “FIT” (Fault Isolation Topology) circuitry isolates fault conditions without affecting neighboring channels

POWER OUTPUT*

	All channels driven			1 channel driven			All channel pairs driven			1 channel pair driven		
Models	4-ohm Dual	8-ohm Dual	70V Dual	4-ohm Dual	8-ohm Dual	70V Dual	8-ohm Bridge	16-ohm Bridge	100V Bridge	8-ohm Bridge	16-ohm Bridge	100V Bridge
CTs 4200	**260W**	**180W**	**220W†**	**270W**	**220W**	**250W†**	**520W**	**400W**	**220W†**	**560W**	**440W**	**250W†**
CTs 8200	**200W**	**160W**	**200W†**	**270W**	**220W**	**250W†**	**400W**	**320W**	**200W†**	**540W**	**440W**	**250W†**

*Maximum average power in watts at 1kHz at 0.1% THD.
†Constant Voltage full-bandwidth power ratings support 100 Hz to 20 kHz due to automatic high-pass filters.

SPECIFICATIONS

Frequency Response (at 1 watt, 20 Hz - 20 kHz): ±0.5 dB.

Phase Response (at 1 watt, 10 Hz - 20 kHz): ±35°.

Signal to Noise Ratio below rated power (20 Hz to 20 kHz): 100 dB unweighted.

Total Harmonic Distortion (THD) at 1 watt, from 20 Hz to 20 kHz: < 0.05%.

Intermodulation Distortion (IMD) 60 Hz and 7 kHz at 4:1, from 163 milliwatts to full bandwidth power: < 0.05% (typical).

Damping Factor: 10 Hz to 400 Hz: >180.

Crosstalk (below rated power, 20 Hz to 1 kHz): > 80 dB.

Common Mode Rejection (CMR) (20 Hz to 1 kHz): > 50 dB.

DC Output Offset (shorted input): < ±5 mV.

Input Impedance (nominal): 20 kilohms balanced, 10 kilohms unbalanced.

Maximum Input Level (before input compression): + 20 dBu.

Load Impedance: (Note: Safe with all types of loads)

Stereo: 4/8 and 25 ohms (70V)
Bridge Mono: 8/16 and 50 ohms (100V)

Voltage Gain (at maximum level setting), 1.4V sensitivity,

4/8 Ohm Operation: 20:1 (26 dB);
70V Operation: 50:1 (34 dB)
100V Operation: 71.4:1 (37 dB)

AC Line Voltage and Frequency Configurations Available (±10%): 120V/60 Hz, 220/230/240V/50 Hz.

Power Draw at Idle (120VAC mains, all channels in 4/8 ohm mode): 58W.

Power Draw at Idle (120VAC mains, all channels in 70V mode): 77W.

Cooling: Continuously variable speed forced air, front-to-back airflow.

Dimensions (Width, Height, Depth):

CTs 4200: 19 in. (48.3 cm) W x 3.5 in. (8.9 cm) H x 16.25 in. (41.3 cm) D.

CTs 8200: 19 in. (48.3 cm) W x 5.25 in. (13.3 cm) H x 16.25 in. (41.3 cm) D.

Weight (Net, Shipping):

CTs 4200: 27 lb 8 oz (12.5 kg), 32 lb (14.5 kg)

CTs 8200: 36 lb 6 oz (16.5 kg), 47 lb (21.3 kg).

Front Panel Controls and Indicators

Bridge Mode Indicator: Yellow LED, one per channel pair, illuminates when the channel pair's Mode Switch is set to the "Bridge" position. If Mode switch is changed while amplifier is powered up, Bridge LED will flash, indicating that the amplifier must be powered off and on to reset the Mode.

Ready Indicator: Green LED, one per channel, illuminates when the channel is initialized and ready to produce audio output.

Signal Indicator: Green LED, one per channel, illuminates to indicate the presence of analog input signals above –40 dBu.

Clip Indicator: Red LED, one per channel, illuminates when the THD of the channel's output signal rises to a level typically considered as the onset of audible clipping. The Clip Indicator also will illuminate during Thermal Level Control (TLC) or input overload.

Thermal Indicator: Red LED, one per channel, flashes when a state of thermal stress or overload has caused the channel to shut down. If the power supply goes into thermal overload, all channel LEDs will flash.

Fault Indicator: Red LED, one per channel, flashes when a fault condition has occurred in the channel.

Ventilation Grille: Front-to-rear forced airflow.

Data Indicator: Yellow LED indicates HiQnet data activity (if the amplifier is equipped with an USPCN Module and connected to a control network).

Power Indicator: Blue LED indicates amplifier has been turned on and AC power is available. Indicator also flashes if the amplifier shuts off due to an under-/over-voltage condition on the AC mains.

Power Switch: Amplifier is on when the switch is in the IN position.

Back Panel Controls and Connectors

AC Power Cord Connector: IEC inlet, type 320;
100/120VAC units: 15A;
220/230/240VAC units: 10A.
Voltage is indicated above IEC inlet.

Output Connectors: One four-pole terminal strip for every two channels with touch-proof cover. Accepts up to 10 AWG terminal forks.

Accessory Panel: CTs 4200 accepts an optional VCA-MC4A module. CTs 8200 accepts an optional VCA-MC8 module.

Channel Level Controls: One 21-position detented rotary potentiometer per channel, ranging from infinity (–70 dB) to 0 dB attenuation.

Input Connectors: Removable Phoenix-style barrier connectors for balanced input. When the USPCN module is installed, these can also can be used as a CobraNet input or a backup for CobraNet.

Mode Switch: Used on each consecutive pair of channels, this four-position switch is used to select the amplifier's mode of operation: Dual 8/4 ohms, Dual 70V, Bridge-Mono 16/8 ohms, and Bridge-Mono 100V.

Cooling Vents: Front-to-rear forced airflow.

Options

Control Modules: USPCN HiQnet and CobraNet Module VCA-MC4A: VCA module for CTs 4200A. VCA-MC8: VCA module for CTs 8200.

Wall-mount level control panels for use with VCA module: 1-VCAP: Single-gang panel with 1 VCA channel volume control. 4-VCAP: Two-gang panel with 4 VCA channel volume controls.

T-170V: This is an autoformer that allows 100V output from the amplifier, and allows other amplifiers without direct constant voltage output to be easily integrated into distributed systems.

TP-170V: This is a rack-mountable panel with four autoformers as described above.

Protection Systems

Thermal Level Control (TLC): If an amplifier channel starts to overheat, the TLC circuit will engage that channel's input compressor. By compressing the input, the amplifier will not generate as much heat and will have a chance to cool down. The degree of compression is proportional to the amount of overheating. If the channel becomes too hot for safe operation even after full TLC limiting, the channel will shut off, and the Thermal Indicator for that channel will flash brightly to alert the user that a state of thermal stress or overload has cause the channel to shut down.

FIT (Fault Isolation Topology): Isolates faults within affected channels.

Fault: If an amplifier channel requires service, the corresponding Fault indicator will illuminate to alert the user of this condition. If this occurs, return the amplifier to the Crown factory or to an authorized Crown service center.

High-Pass Filter: A fixed 35-Hz (70-Hz in CTs 4200) high-pass filter per channel pair is automatically inserted when the mode switch is set to either of the constant-voltage settings. The high-pass filter corner frequency in the CTs 8200 can be set to 70 Hz, or bypassed, with a service option.

AC Under-/Over-Voltage Protection: If the AC line voltage varies out of an acceptable range, the amplifier's power supply turns off and the blue Power LED flashes. The amplifier will turn back on when the AC line voltage returns to safe operating levels.

Models	Under-Voltage Limit	Over-Voltage Limit
100VAC (CTs 8200 only)	90VAC	110VAC
120 VAC units	108VAC	132VAC
220V/230V/240V units	198VAC	264VAC

Power Fuse: A fuse protects the amplifier from excessive AC current draw.

Inrush Limiting: A soft-start circuit in the power supply minimizes the amplifier's current draw during power-on.

Variable-speed Fan: Continuously variable speed fan directs the airflow through the amplifier for cooling.

Regulatory Certifications

Other Applications

Cinema

Crown's CTs Multi-Channel Series offers wide flexibility for a wide range of installed sound applications. CTs Multi-Channel Series amplifiers offer independent selection of high- and low-impedance operation for each channel pair, making these amps ideal for multi-zone installations.

INSTALLED SOUND

CTs Multi-Channel Series: **With CobraNet**
CTs 4200USP/CN, CTs 8200USP/CN

COBRANET™ CAPABLE

FEATURES (with USPCN module)

- 100 Mbps Ethernet single-plug solution for CobraNet audio, and HiQnet™ control and monitoring
- Analog audio inputs allow CobraNet network audio input, CobraNet audio backup, or a hardwire emergency override of CobraNet audio
- 24 bit digital to analog conversion with 32 bit, floating point DSP processing
- Firmware upgrades via the network
- 10 user selectable presets
- Reliable FLASH memory backup of all parameters

POWER OUTPUT*

	All channels driven			1 channel driven			All channel pairs driven			1 channel pair driven		
Models	4-ohm Dual	8-ohm Dual	70V Dual	4-ohm Dual	8-ohm Dual	70V Dual	8-ohm Bridge	16-ohm Bridge	100V Bridge	8-ohm Bridge	16-ohm Bridge	100V Bridge
CTs 4200USP/CN	**260W**	**180W**	**220W†**	**270W**	**220W**	**250W†**	**520W**	**400W**	**220W†**	**560W**	**440W**	**250W†**
CTs 8200USP/CN	**200W**	**160W**	**200W†**	**270W**	**220W**	**250W†**	**400W**	**320W**	**200W†**	**540W**	**440W**	**250W†**

*Maximum average power in watts at 1kHz at 0.1% THD.
†Constant Voltage full-bandwidth power ratings support 100 Hz to 20 kHz due to automatic high-pass filters.

SPECIFICATIONS

USP/CN CobraNet Module Specifications
(for amplifier specifications, see the CTs Multi-Channel Series pages)

Connectors:

AUX Connector
Configurable for AUX input, AUX output and Listen Bus. Listen Bus is also supported through CobraNet.

Network Connector
The dual RJ45 CobraNet connectors allow a Primary & Secondary connection to the 100Mb Ethernet network. Should the Primary connection lose link activity with the network, the input module will automatically switch to the Secondary connection to ensure uninterrupted audio and control. The indicators on the RJ45 connectors display network information concerning the Ethernet and CobraNet connections.

Indicators:

Preset Indicator
Signals the number of the current preset, if active, by flashing a series of flashes equal to the current preset number.

Data Indicator
Flashes when the module receives a valid command that is addressed to the CTs 4200 USP/CN and CTs 8200USP/CN.

Switches:

Reset/Preset Switch
Used to change presets, restore settings to factory default or restore all the presets to the factory defaults. During operation of the switch, the Data indicator flashes as an aid to the user. Accessible with a straightened paper clip through the rear panel, the switch selects the next user preset if pressed for less than 2 seconds, resets the module to preset "0" if pressed for more than 2 seconds.

General:

Memory Backup: Non-volatile FLASH memories for backup of run-time parameters, presets, and program storage.

Communications: 100Mb Fast Ethernet conforming to IEEE 802.3.

Overall Audio Performance:

DSP Processing: Two processors, 32 bit, Floating Point, 724 µs latency.

D/A and A/D Conversion: 24 bit.

Latency:
DSP processing: 1 ms or 1000 µs.
Digital-to-analog conversion: 250 µs.
Analog-to-digital conversion: 250 µs.
Amplifier: 100 µs.
Total: 1.6 ms or 1000 µs.

Dynamic Range: 103 dB typical (A-weighted, 20Hz–20kHz, audio sourced from muted CobraNet channel).

Distortion: < 0.1% THD+N, 20Hz–20kHz.

Frequency Response: ± 0.5 dB, 20Hz–20kHz.

Input/Output Monitor Accuracy: Typically ±1dB.

Maximum Input Level: + 20 dBu.

Regulatory Certifications

Other Applications

Cinema

CTs 8200USP/CN Back Panel (note USP/CN CobraNet™ module at top left)

The Crown® CTs 4200USP/CN and CTs 8200USP/CN power amplifiers have an integrated 3rd generation, DSP-based input module. It connects the amplifier to a 100 Mbps Ethernet network allowing it to be remotely controlled and monitored via System Architect™ software. In addition, the input module allows the transport of real-time digital audio via CobraNet™ over the same Ethernet network. The amplifiers connect to a HiQnet™ audio control/monitor network using standard 100 Mbps Ethernet hardware (switches, Network Interface Cards, and cables). CobraNet™ audio is available over the same 100 Mbps Ethernet network, providing a simple-to-install, single-plug solution for audio distribution, control, and monitoring.

INSTALLED SOUND

CDi Series: **2/4/8 Ohm, 70V/100V per channel**
CDi 1000, CDi 2000, CDi 4000, CDi 6000

VERSATILITY

FEATURES

- Onboard digital signal processing includes crossovers, EQ filters, delay, and output limiting
- Computer connectivity via USB allows fast setup and configuration with HiQnet™
- Barrier strip outputs, removable Phoenix-style input
- Extremely versatile, handling a wide range of speaker impedances and outputs
- Switch-mode universal power supply
- Speaker presets for crossover frequencies, EQ, limiting, compression, delay

POWER OUTPUT*

Models	2-ohm Dual (per channel)	4-ohm Dual (per channel)	8-ohm Dual (per channel)	70V Dual (per channel)	4-ohm Bridge	100V‡ Dual (per channel)	140V Bridge
CDi 1000	**700W****	**500W**	**275W**	**500W**	**1,400W****	**500W**	**1,000W**
CDi 2000	**1,000W****	**800W**	**475W**	**800W**	**2,000W****	**800W**	**1,600W**
CDi 4000	**1,600W****	**1,200W**	**650W**	**1,000W**	**3,200W****	**1,000W**	**2,000W**
CDi 6000	**3,000W****	**2,100W**	**1,200W**	**2,500W**	**6,000W****	**2,500W**	**5,000W**

*Maximum average power in watts at 1 kHz at 0.5% THD. **With 1% THD. ‡100Vp

SPECIFICATIONS

Performance

Output Power: See power charts.

Voltage Gain at 1kHz:

CDi 1000: 30.5 dB
CDi 2000: 32.9 dB
CDi 4000: 34.2 dB
CDi 6000: 37.1 dB

Frequency Response: +0/–1 dB from 20 Hz to 20 kHz at 1 watt into 4 ohms.

Load Impedance: Safe with all types of loads. Rated for 2 to 8 ohms in Stereo mode, 4 to 16 ohms in Bridge-Mono mode.

Sensitivity: 1.4V.

Signal to Noise Ratio (below rated 8-ohm power at 1 kHz): 100 dB (A weighted).

Damping Factor: Better than 500 from 20 Hz to 400 Hz.

Crosstalk: > 70 dB below rated power, 20 Hz to 1 kHz.

Input Stage: Input is electronically balanced and employs precision 1% resistors.

Input Impedance (nominal): 20 k ohms, balanced; 10 k ohms, unbalanced.

Maximum Input Signal: +22 dBu typical.

AC Line Voltage and Frequency Configurations Available: 100V, 120V, 220-240V, 50/60 Hz.

AC Line Current:
CDi 1000: 6.8A
CDi 2000: 8.3A
CDi 4000: 10.5A
At Idle: Draws no more than 38 watts.

CDi 6000: 15.3A
At Idle: Draws no more than 180 watts.

Operating Temperature: 0° C to 40° C at 95% relative humidity (non-condensing).

DSP Section

Input EQ: 6 parametric filters per channel with adjustable Q, ±15 dB boost/cut. Also adjustable high and low shelving filters. This 8-filter EQ section can be bypassed.

Crossover Filters: Highpass and lowpass per channel. Butterworth 6/12/18/24 dB per octave and Linkwitz-Riley 24/48 dB per octave. Also includes ±15 dB bandpass gain and polarity control.

Output EQ: 8 parametric filters per channel with adjustable Q, ±15 dB boost/cut. This 8-filter EQ section can NOT be bypassed. Filters are enabled individually.

Delay: Up to 50 msec total delay per channel.

Output Limiter: Prevents clipping and protects loudspeakers. Choice of –3, –6, or –12 dB threshold per channel.

Presets: 20 presets. 19 are user-definable

Front Panel Controls and Indicators

Level: Detented rotary level control, one per channel.

Power Switch: On/off switch applies AC power to the amplifier.

Sel/Prev/Next Buttons: Three buttons near the LCD screen are used to access menu items and front panel lockout.

LCD Screen: Backlit liquid crystal display shows speaker presets and signal processing.

Signal Indicator: Green LED, one per channel, illuminates when a very low-level signal is present at input.

–10 Indicator: Green LED flashes when output signal exceeds –10 dB below clip.

–20 Indicator: Green LED flashes when output signal level exceeds –20 dB below clip.

Ready Indicator: Green LED, one per channel, illuminates when the amplifier is ready to produce audio.

Clip Indicator: Red LED, one per channel, turns on at the threshold of audible distortion.

Temp Indicator: Red LED, one per channel, illuminates under excessive temperature conditions.

Power Indicator: Blue LED illuminates when the amplifier has been turned on and has power.

Rear Panel Controls and Connectors

AC Line Connector:
CDi 1000, 2000, 4000: NEMA 5-15P (15A).
CDi 6000: NEMA 6-10P (20A)
IEC C20 (20A).

Input Connector: Two 3-pin removable Phoenix-type connectors each accept a balanced line-level input signal.

Output Connectors: 4-position barrier strip with connectors for dual louspeakers or bridge-mono loudspeaker. Dual connectors work with 2-8 ohm or 70V/100V loads. Bridge-mono connectors work with 4-8 ohm or 140V loads.

HiQnet USB Connector: Type B, connects to a USB port on a PC.

Protection

CDi Series amplifiers are protected against shorted, open or mismatched loads; overloaded power supplies; excessive temperature; chain destruction phenomena; excessive output current, and input overload damage. They also protect loudspeakers from input/output DC, large or dangerous DC offsets and turn-on/turn-off transients.

Included Accessories

Non-touch cover
Locking level-control knobs.

Construction

Chassis: Steel.

Cooling: Proportional speed fan with front-to-rear airflow.

Dimensions: EIA Standard 19-in. rack mount width (EIA RS-310-B), 3.5 in. (8.9 cm) high and 12.25 in. (31.11 cm) deep behind mounting surface. CDi 6000 is 16.2 in. (41.15 cm) deep.

Net Weight:
CDi 1000, 2000, 4000: 19 lb (8.6 kg).
CDi 6000: 24 lb (10.9 kg).

Shipping Weight:
CDi 1000, 2000, 4000: 22 lb (10.0 kg).
CDi 6000: 30 lb (13.6 kg).

Regulatory Certifications

Note: All measurements apply to all models of CDi Series amplifiers in stereo mode with 8-ohm loads and an input sensitivity of 1.4V, 1 kHz at rated power unless other otherwise specified. Specifications for units supplied outside the U.S.A. may vary slightly at different AC voltages and frequencies.

The CDi Series of Crown® amplifiers are professional tools designed and built for installed sound applications. The series includes four models which are identical except for output power: CDi 1000, CDi 2000, CDi 4000 and CDi 6000. All are rugged and lightweight, and offer unmatched value in their class. CDi-Series amplifiers feature an LCD screen with DSP speaker presets. Other features include a switch-mode universal power supply, useful function indicators, proportional-speed fan-assisted cooling, removable Phoenix-style inputs, barrier strip outputs for low-Z or 70V/140V loads, short-circuit protection and more.

COMMERCIAL

Crown Commercial Audio Product Line

Preamplifier-Mixers

Amplifiers

AUDIO

Mixer-Amplifiers

14M, 28M

ADAPTABLE

FEATURES

- 4 or 8 inputs, 1 or 2 output channels
- Ideal for commercial and industrial use
- Balanced Phoenix-type mic/line inputs; RCA inputs
- Balanced Phoenix-type line outputs
- Any input can be sent to any output
- Priority muting
- Independent bass and treble controls for each input

Model	Inputs	System Zones
14M	**4**	**Single-zone**
28M	**8**	**Two-zone**

SPECIFICATIONS

Performance

Frequency Response (at line out): 20 Hz to 20 kHz +/- 1 dB.

Signal to Noise Ratio (master volume at minimum): 100 dB.

THD: 0.05% typical with 800 mV balanced input, 1V output.

Input Sensitivity (volts RMS for full output at maximum gain):

Balanced mic inputs: 3 mV.
Balanced line inputs: 800 mV.
RCA connectors: 400 mV.

Input Impedance (nominal):
Mic: 400 ohms.
Line: 100 kilohms.
RCA: 50 kilohms.

Crosstalk (all controls at "10"): –50 dB at 1kHz.

Line Output Level (nominal): 1.2 V into 10 kilohms.

Phantom Power: 15 VDC.

AC Line Voltages Available:
100V 50/60 Hz
120V 60 Hz
220V 50/60 Hz
230V 50/60 Hz
240V 50/60 Hz

Operating Temperature/Humidity: 0° C to 40° C at 95% relative humidity (non-condensing).

Storage Temperature: –20° C to 85° C.

Front Panel Controls and Indicators

Power Switch: Pushbutton on-off switch. The power switch does not affect the 24V DC auxiliary power input.

Input Level Controls: Microphone/line, four in 14M, eight in 28M. Detented potentiometers with knobs.

Tone Controls: Bass and Treble non-detented potentiometers on each input channel. Bass ±10 dB at 100 Hz, Treble ±10 dB at 10 kHz.

Power Indicator: Blue LED indicates power on.

Input Signal Presence Indicator: Green LED, one for each input channel, illuminates when input signal exceeds –24 dBu (line) or –70 dBu (mic).

Output Signal Presence Indicator: Green LED, one for each output channel, illuminates when output signal level exceeds 100 mV.

Clip Indicators: Red LED, one per output channel. Illuminates at threshold of audible distortion.

Output Level Controls: One per output channel. Detented potentiometer with knob.

Back Panel Controls and Connectors

Fuse: Protects the power supply.

AC Power Inlet: Detachable IEC.

Auxiliary Power Input: 2-position terminal strip for 24 VDC (±10%) backup power. Accepts up to 10 AWG terminal forks.

Mixer Config Switch: A DIP switch with two functions:

1. Assigns an input as the priority input for each output, thereby temporarily muting the remaining inputs. Muting is activated by contact closure.

2. Global enable switch for phantom power. Does not affect RCA inputs. Default position is off.

Priority Connector: 3-pin Phoenix-type connector allows Input 1 or Input 5 (28M only) to mute other input signals by contact closure.

Input Routing Switch (28M only): DIP switches that assign each input signal to each output. Two switches per input.

Line Out Connector: One 3-pin balanced Phoenix-type connector per output channel. Level controlled by master volume control.

Input Connectors:
Mic/Line Connector: 3-pin Phoenix-type, balanced, one per input channel.

Dual RCA Input Connector: For stereo music signals, unbalanced, summed together, two connectors per input channel.

Mic/line Switch: Selects mic-level or line-level signals. One switch for each balanced input

Included Accessories

Power cord
Detachable rack ears
Phoenix-type connectors

Dimensions

EIA Standard 19-inch (48.3-cm) rack mount width (EIA RS-310-B) with rack ears, 1.7-inch (4.3-cm) height and 10.7-inch (27.18-cm) depth behind the mounting surface.

Weight

Net Weight:
14M: 8.7 lb (3.9 kg)
28M: 8.7 lb (3.9 kg)
Shipping Weight:
14M: 14 lb (6.4 kg)
28M: 14 lb (6.4 kg)

Regulatory Certifications

The Crown® 14M and 28M are high-value mixers for commercial and industrial audio. The mixers are part of Crown's Commercial Audio Series, which also includes mixer-amplifiers and power amplifiers. These low-cost units provide all necessary features in a simple building-block format. Some applications include schools, hospitals, factories, restaurant/retail, houses of worship, fitness facilities, A/V boardrooms, correctional facilities, and small offices. Typical uses are paging, background music, security and evacuation instructions. Input routing allows each input to be assigned to any output. You can add more mixers for more inputs, or add more power amps (or mixer-amps) to handle more zones. Other features include priority muting and phantom power.

180A, 280A, 1160A

POWER ZONE

FEATURES

- Ideal for commercial and industrial use
- Balanced Phoenix-type line inputs; touch-proofed screw-terminal speaker outputs
- Advanced protection system includes output current limiting, DC protection, circuit breaker/fuse, and thermal protection
- 1 or 2 inputs; 1 to 2 amplifier output channels

POWER OUTPUT*

Models	4-ohm	70V/100V	Inputs	System Zones
180A	**80W**	**80W**	**1**	**Single-zone**
280A	**80W**	**80W**	**2**	**Two-zone**
1160A	**160W**	**160W**	**1**	**Single-zone**

*Minimum guaranteed power in watts at 1 kHz with 0.5% THD.

SPECIFICATIONS

Performance

Frequency Reponse (at 1 watt from 4-ohm tap): 70 Hz to 19 kHz +/- 1 dB.

Frequency Response (at line out): 20 Hz to 20 kHz +/- 1 dB.

Power Bandwidth (at 4-ohm tap, 2 dB below maxium 1 kHz power): 50 Hz to 20 kHz with < 0.5% THD

Signal to Noise Ratio (ref. to rated power, master volume at minimum): 85 dB.

DC Output Offset: < ±5 mV.

THD: Less than 0.5% at rated power at 1 kHz.

Input Sensitivity (for full output at maximum gain): 800 mV.

Input Impedance (nominal): 100 kilohms.

Minimum Load Impedance:
100V output: 160 ohms.
70V output: 80 ohms.
4-ohm output: 4/8 ohms.

Crosstalk (all controls at "10"): –70 dB at 1kHz.

Line Output Level (nominal): 1V into 10 kilohms.

AC Line Voltages Available:
100V 50/60 Hz
120V 60 Hz
220V 50/60 Hz
230V 50/60 Hz
240V 50/60 Hz

Operating Temperature/Humidity: 0° C to 40° C at 95% relative humidity (non-condensing).

Storage Temperature: –20° C to 85° C.

Front Panel Controls and Indicators

Power Switch: Pushbutton on-off switch. The power switch does not affect the 24V DC auxiliary power input.

Power Indicator: Blue LED indicates power on.

Output Signal Presence Indicator: Green LED, one for each output channel, illuminates when output signal level exceeds 100 mV (45 dB below full power) from the 4-ohm tap.

Clip Indicators: Red LED, one per output channel. Illuminates at threshold of audible distortion.

Master Level Controls: One per output channel. Detented potentiometer with knob.

Tone Controls: Bass and Treble non-detented potentiometers on each channel. Bass ±10 dB at 100 Hz, Treble ±10 dB at 10 kHz.

Back Panel Controls and Connectors

Reset Switch: Resets the circuit breaker that protects the power supply. 220/230/240V units have a fuse instead.

AC Power Inlet: Detachable IEC.

Auxiliary Power Input: 2-position terminal strip for 24 VDC (±10%) backup power. Accepts up to 14 AWG terminal forks.

Amplifier Outputs Connectors: One per channel, 4-position terminal strip with COM (Common), 4 ohms, 70V and 100V terminals. Accepts up to 10 AWG terminal forks. Non-touch cover included.

Output VCA Connector: One for every two channels, 4-pin Phoenix-type connector for two VCA control lines of +10 VDC and ground. Compatible with Crown 1-VCAP and 4-VCAP modules.

Line Out Connector: One 3-pin balanced Phoenix-type connector per output channel. Post master, pre-VCA. Level controlled by master volume control.

Amp Input Connector:
3-pin Phoenix-type, high-impedance balanced, one per amplifer channel.

Cooling

Convection cooled.

Protection

Current Limit Protection: Included.
Thermal Limit Protection: Over-temperature thermal cutout.

DC-Fault Load Protection: Included.

Included Accessories

Power cord
Detachable rack ears
Screws for rack ears
Non-touch cover for output connectors
Phoenix-type connectors
Spade lugs

Optional Accessories

1-VCAP remote volume control for one channel.
4-VCAP remote volume control for four channels.

Dimensions

EIA Standard 19-inch (48.3-cm) rack mount width (EIA RS-310-B) with rack ears, 3.5-inch (8.9-cm) height and 12.2-inch (31.0-cm) depth behind the mounting surface (not including non-touch cover). 4.1 inches (10.5 cm) high including feet. 13.9 inches (35.2 cm) deep from front of knobs to back of non-touch cover.

Weight

Net Weight:
180A: 21.0 lb (9.5 kg)
280A: 25.3 lb (11.5 kg)
1160A: 25.3 lb (11.5 kg)

Shipping Weight:
180A: 26.0 lb (11.8 kg)
280A: 30.3 lb (13.7 kg)
1160A: 30.3 lb (13.7 kg)

Regulatory Certifications

The Crown® 180A, 280A and 1160A are high-value amplifiers for commercial and industrial audio. They provide 4-ohm and constant-voltage outputs (70V and 100V). The amps are part of Crown's Commercial Audio Series, which also includes mixers and mixer-amps. These low-cost units provide all necessary features in a simple building-block format.

180MA, 280MA, 1160MA

PRACTICAL

FEATURES

- 4 to 8 inputs, 1 to 2 amplifier output channels
- Ideal for commercial and industrial use
- Balanced Phoenix-type mic/line inputs; touch-proofed screw-terminal speaker outputs
- Any input can be sent to any output
- Priority muting

POWER OUTPUT*

Models	4-ohm	70V/100V	Inputs	System Zones
180MA	**80W**	**80W**	**4**	**Single-zone**
280MA	**80W**	**80W**	**8**	**Two-zone**
1160MA	**160W**	**160W**	**4**	**Single-zone**

*Minimum guaranteed power in watts at 1 kHz with 0.5% THD.

SPECIFICATIONS

Performance

Frequency Reponse (at 1 watt from 4-ohm tap): 70 Hz to 19 kHz ± 1 dB.

Frequency Response (at line out): 20 Hz to 20 kHz ± 1 dB.

Power Bandwidth (at 4-ohm tap, 2 dB below maxium 1 kHz power): 50 Hz to 20 kHz with < 0.5% THD

Signal to Noise Ratio (ref. to rated power, master volume at minimum): 85 dB.

DC Output Offset: < ±5 mV.

THD: Less than 0.5% at rated power at 1 kHz.

Input Sensitivity (for full output at maximum gain):
Balanced mic inputs: 3 mV.
Balanced line inputs: 800 mV.
RCA connectors: 400 mV.

Input Impedance (nominal):
Mic: 400 ohms.
Line: 100 kilohms.
RCA: 50 kilohms.

Crosstalk: –70dB at 1kHz.

Line Output Level (nominal): 1V into 10 kilohms.

Phantom Power: 15 VDC.

AC Line Voltages Available:
100V 50/60 Hz
120V 60 Hz
220V 50/60 Hz
230V 50/60 Hz
240V 50/60 Hz

Operating Temperature/Humidy: 0° C to 40° C at 95% relative humidity (non-condensing).

Storage Temperature: –20° C to 85° C.

Front Panel Controls and Indicators

Power Switch: Pushbutton on-off switch. The power switch does not affect the 24V DC auxiliary power input.

Input Level Controls: Microphone/line, four on 180MA and 1160MA, eight on 280MA. Detented potentiometers with knobs.

Tone Controls: Bass and Treble non-detented recessed potentiometers on each input channel. Bass ±10 dB at 100 Hz, Treble ±10 dB at 10 kHz.

Power Indicator: Blue LED indicates power on.

Input Signal Presence Indicator: Green LED, one for each input channel, illuminates when input signal exceeds –24 dBu (line) or –70 dBu (mic).

Output Signal Presence Indicator: Green LED, one for each output channel, illuminates when output signal level exceeds 100 mV (45 dB below full power) from the 4-ohm tap. Does not respond to signals from the AMP INPUT connector.

Clip Indicators: Red LED, one per output channel. Illuminates at threshold of audible distortion. Does not respond to signals from the AMP INPUT connector.

Output Level Controls: One per output channel. Detented potentiometer with knob.

Back Panel Controls and Connectors

Reset Switch: Resets the circuit breaker that protects the power supply. 220/230/240V units have a fuse instead.

AC Power Inlet: Detachable IEC.

Auxiliary Power Input: 2-position terminal strip for 24 VDC (±10%) backup power. Accepts up to 10 AWG terminal forks.

Amplifier Outputs Connectors: One per channel, 4-position terminal strip with COM (Common), 4 ohms, 70V and 100V terminals. Accepts up to 10 AWG terminal forks. Non-touch cover included.

Output VCA Connector: 4-pin Phoenix-type connector for two VCA control lines of +10 VDC and ground. Compatible with Crown 1-VCAP and 4-VCAP modules.

Amp Config Switch: A DIP switch with two functions:

1. Assigns an input as the priority input for each output, thereby temporarily muting the remaining inputs. Muting is activated by contact closure.

2. Global enable switch for phantom power. Does not affect RCA inputs. Default position is off.

Priority Connector: 3-pin Phoenix-type connector allows Input 1 or Input 5 (280MA only) to mute other input signals by contact closure.

Input Routing Switch (280MA only): DIP switches that assign each input signal to each output. Two switches per input.

Line Out Connector: One 3-pin balanced Phoenix-type connector per output channel. Post master, pre-VCA. Level controlled by master volume control.

The tone generator has been omitted. Call Crown Tech Support if you have a tone generator question.

Input Connectors:
Mic/Line Connector: 3-pin Phoenix-type, balanced, one per input channel.

Dual RCA Input Connector: For stereo music signals, unbalanced, summed together, two connectors per input channel.

Amp Input Connector: 3-pin Phoenix-type, high-impedance balanced, one per amplifer channel. Used to link an additional mixer to the mixer-amplifier. Can be used to connect an external processor.

Mic/line Switch: Selects mic-level or line-level signals. One switch for each balanced input.

Link In/Out Switch: Slide switch, one per channel. With the Link Switch IN, any signal applied to the Amp Input connector will be mixed with the input signal(s). With the Link Switch OUT, only the signal from the Amp Input Connector will appear at the amplifier output.

Cooling

Convection cooled.

Protection

Current Limit Protection: Included.

Thermal Limit Protection: Over-temperature thermal cutout.

DC-Fault Load Protection: Included.

Included Accessories

Power cord
Detachable rack ears
Screws for rack ears
Non-touch cover for output connectors
Phoenix-type connectors
Spade lugs

Optional Accessories

1-VCAP remote volume control for one channel.
4-VCAP remote volume control for four channels.

Dimensions

EIA Standard 19-inch (48.3-cm) rack mount width (EIA RS-310-B) with rack ears, 3.5-inch (8.9-cm) height and 12.2-inch (31.0-cm) depth behind the mounting surface (not including non-touch cover). 4.1 inches (10.5 cm) high including feet. 13.9 inches (35.2 cm) deep from front of knobs to back of non-touch cover.

Weight

Net Weight:
180MA: 21.0 lbs. (9.5 kg).
280MA: 25.3 lbs. (11.5 kg)
1160MA: 25.3 lbs. (11.5 kg)

Shipping Weight:
180MA: 26.0 lbs. (11.8 kg)
280MA: 30.3 lbs. (13.8 kg)
1160MA: 30.3 lbs. (13.8 kg)

Regulatory Certifications

Crown's Commercial Audio mixer/amplifiers deliver legendary Crown quality to the commercial audio industry. These high-value mixer-amplifiers provide both 4-ohm and constant-voltage outputs (70V and 100V) for use in a wide range of commercial applications including schools, hospitals, factories, restaurant/retail, houses of worship, fitness facilities, A/V boardrooms, correctional facilities, and small offices. Easily configured for a range of uses such as paging, background music, security, and evacuation instructions, Crown's Commercial Audio units are the smart choice for commercial sound.

135MA, 160MA

PRACTICAL

FEATURES

- 3 inputs and one 35W amplifier output channel in 135MA
- 4 inputs and one 60W amplifier output channel in 160MA
- Ideal for paging, background music, and music-on-hold
- Voice-activated priority muting (VOX)
- Pre-amp outputs

POWER OUTPUT*

Models	8-ohm	70V/100V	Inputs	System Zones
135MA	**35W**	**35W**	**3**	**Single-zone**
160MA	**60W**	**60W**	**4**	**Single-zone**

*Minimum guaranteed power in watts at 1 kHz with 0.5% THD.

SPECIFICATIONS

Performance

Frequency Response (at 1 watt from line out):

50 Hz to 20 kHz ± 1 dB.
19 Hz to 34 kHz +0, –3 dB.

Signal to Noise Ratio (ref. to rated power, master volume at minimum):

Mic: > 58 dB.
Line: > 60 dB.
Telephone: > 60 dB.
Inputs 2 or 3 (and 4 in 160MA): > 78 dB.

THD + N: < 0.5% at rated power at 1 kHz.
< 0.1% at 5W at 1 kHz.

Input Sensitivity (for full output at maximum gain):
Input 1: Mic 3mV, Line 800mV.
Input 2: 400mV.
Input 3: 400mV.
Input 4 (160MA only): 400mV.

Input Impedance (nominal):
Mic: 2.2 kilohms.
Line: 10 kilohms.
RCA: 10 kilohms.

Crosstalk: –82 dB at 1kHz (Ch. 1 line input 0.8V, Ch. 1 volume at minimum, other channel volumes at maximum).

Line Output Level (nominal): 1V into 10 kilohms.

Phantom Power: 15 VDC.

AC Line Voltages Available:
Universal Power Supply. Line voltage tolerance +15%, –20%.

Operating Temperature/Humidity: 0° C to 40° C at 95% relative humidity (non-condensing).

Storage Temperature: –20° C to 85° C.

Front Panel Controls and Indicators

Power Switch: Pushbutton on-off switch.

Input Level Controls: Four controls, one per input. Detented potentiometers with knobs.

Tone Controls: Bass and Treble non-detented recessed potentiometers under master output volume control. Bass ±10 dB at 100 Hz, Treble ±10 dB at 10 kHz.

Power Indicator: Blue LED indicates power on.

Input Signal Presence Indicators: Green LED, one above each channel's input attenuator, illuminates when input signal exceeds –40 dBu.

Input Signal Clip Indicators: Green LED, one above each channel's input attenuator, flashes brightly at threshold of audible distortion.

Output Signal Presence Indicator: Green LED above master output volume control illuminates when any input signal exceeds –40 dBu.

Output Signal Clip Indicators: Red LED above master output volume control flashes brightly at threshold of audible distortion.

Master Output Level Control: Detented potentiometer with knob.

Back Panel Controls, Connectors and Indicators

AC Power Inlet: Detachable IEC accepts US or Euro style power cords.

Amplifier Output Connector: 4-position terminal barrier block with COM (Common), 8 ohms, 70V and 100V terminals. Accepts up to 10 AWG terminal forks. Non-touch cover included.

Preamp Line Out Connector: 3-pin balanced Phoenix-type for connection to external amplifiers. Level independent of master volume control.

Input Connector 1: 5-terminal Phoenix connector. 3 terminals for balanced signal, 2 terminals for priority contact closure, which mutes other channels when DIP switch 3 is on.

Input Connector 2: Unbalanced line-level RCA-type connectors.

Input Connector 3: Unbalanced line-level RCA-type connectors.

Input Connector 4 (160MA only): Unbalanced line-level RCA-type connectors.

Telephone (MOH) Output Connector: 4-terminal Phoenix connector (2 terminals for 1W output to 8-ohm speaker, 2 terminals for 600-ohm output to PBX music-on-hold port).

MOH Level Control: Trim pot adjusts level for Music-On-Hold output from Telephone (MOH) Output Connector.

Amp Configuration DIP Switch: DIP switch selection for multiple functions.

1. On: Sets CH1 to Mic Input. Off: Sets CH1 to Line Input.
2. On: Sets CH1 to Normal mode (no priority).
3. On: CH1 priority contact closure mutes other channels.
4. On: CH1 VOX mutes other channels by sensing signal through Input 1.
5. On: Routes CH1 to MOH output.
6. On: Routes CH2 to MOH output.
7. On: Routes CH3 to MOH output.
8. On: 15V phantom power.

VOX Threshold: Trim pot controls how loud the voice on CH1 must be before muting other channels. Can be set for no muting.

Cooling

Convection cooled.

Protection

Included protection mechanisms are current limiting, over-temperature thermal cutout, and DC-fault load protection. The unit is protected against turn-on/turn-off thumps.

Included Accessories

Power cord
No-touch cover for output connectors
Phoenix-type connectors

Optional Accessories

Part no. IST 600-ohm Isolation Transformer for Telephone Output or Input 1.
Part no. RM1 single rack mount kit for mounting a single MA unit in a rack.
Part no. RM2 double rack mount kit for mounting two MA units side-by-side in a rack.
Part no. S-Cover 10-pack of security knobs.

Dimensions

Width: Half rack width (9.5 in. or 24.1 cm).
Height (front panel): 3.5 in. (8.9 cm).
Height (including feet): 4.1 in. (10.5 cm).
Depth (front panel to back panel): 12.2 in. (31.0 cm).
Depth (front of knobs to back panel): 13.9 in. (35.2 cm).

Weight

Net Weight:
135MA: 8 lb 2 oz (3.7 kg).
160MA: 9 lb 7 oz (4.3 kg).

Shipping Weight:
135MA: 10 lb 16 oz (4.9 kg).
160MA: 12 lb 4 oz (5.6 kg).

Regulatory Certifications

Crown's Commercial Audio mixer/amplifiers deliver legendary Crown quality to the commercial audio industry. These high-value mixer-amplifiers provide both 8-ohm and constant-voltage outputs (70V and 100V) for use in a wide range of commercial applications including schools, hospitals, factories, restaurant/retail, houses of worship, fitness facilities, A/V boardrooms, correctional facilities, and small offices. Easily configured for a range of uses such as paging, background music, security, and evacuation instructions, Crown's Commercial Audio units are the smart choice for commercial sound.

PORTABLE

Crown Portable PA Product Line

XTi 2 Series

PA

XLS DriveCore™ Series

PORTABLE PA

XTi 2 Series: **World Class**
XTi 1002, XTi 2002, XTi 4002, XTi 6002

WORLD CLASS

FEATURES

- Complete system processing solution including XOVER, EQ, Delay, & Limiting
- **NEW** Peak$_X$ Plus™ Limiters provide the ultimate in performance and protection
- **NEW** Advanced Monitoring provides visibility of AC Line Voltage and Power Supply Temperature
- USB network for real-time monitoring and control

POWER OUTPUT

Model	2-ohm Dual (per channel)	4-ohm Dual (per channel)	8-ohm Dual (per channel)	4-ohm Bridge	8-ohm Bridge
XTi 1002	**700W***	**500W**	**275W**	**1,400W***	**1,000W**
XTi 2002	**1,000W***	**800W**	**475W**	**2,000W***	**1,600W**
XTi 4002	**1,600W***	**1,200W**	**650W**	**3,200W***	**2,400W**
XTi 6002	**3,000W***	**2,100W**	**1,200W**	**6,000W***	**4,200W**

1 kHz power with 0.5% THD. * With 1% THD.

SPECIFICATIONS

Performance

Frequency Response:
(at 1 watt, 20 Hz to 20 kHz): +0 dB, –1 dB

Signal-to-Noise Ratio (below rated 1kHz power at 8 ohms):
XTi 1002/2002/4002: 100 dB (A weighted),
XTi 6002: 103 dB (A weighted)

Total Harmonic Distortion (THD): < 0.5%

Damping Factor 20 Hz to 1 kHz: > 500

Crosstalk (below rated power):
20 Hz - 1 kHz: > 70 dB

Input Impedance (nominal):
20k ohms balanced, 10k ohms unbalanced

Maximum Input Signal: +22 dBu typical

AC Line Voltage and Frequency Configurations:
100 VAC, 120 VAC, 220-240 VAC 50/60 Hz

AC Line Current (120 VAC amplifier playing

1/8 power pink noise into 4 ohms per ch):
XTi 1002: 6.8A; no more than 38W at idle,
XTi 2002: 8.3A; no more than 38W at idle,
XTi 4002: 10.5A; no more than 38W at idle,
XTi 6002: 15.3A; no more than 180W at idle

Operating Temperature:
0^0C to 40^0C at 95% relative humidity (non-condensing)

Indicators

Signal Indicator: Green LED, one per channel, illuminates when a very low-level signal is present at input (may be used for troubleshooting cable runs).

–10 Indicator: Green LED flashes when output signal exceeds –10 dB below clip.

–20 Indicator: Green LED flashes when output signal level exceeds –20 dB below clip.

Ready Indicator: Green LED, one per channel, illuminates when the amplifier is ready to produce audio.

Clip Indicator: Red LED, one per channel, turns on at the threshold of audible distortion.

Temp Indicator: Red LED, one per channel, illuminates under excessive temperature conditions.

Power Indicator: Blue LED illuminates when the amplifier has been turned on and has power.

Controls

Level: Two front-panel rotary level controls, one for each channel.

Power Switch: On/Off switch applies AC power to the amplifier.

Sel/Prev/Next Buttons: Three buttons near the LCD screen that are used to access menu items and front panel lockout.

LCD Screen: Backlit liquid crystal display that shows preset and processing status.

Integrated Processing

Input EQ: 6 parametric filters per channel with adjustable Q, ±15 dB boost/cut. Also adjustable high and low shelving filters. This 8-filter EQ section can be bypassed.

Crossover Filters: Highpass and Lowpass per channel. Butterworth 6/12/18/24 dB per octave. Linkwitz-Riley 24/48 dB per Octave. Also includes ±15 dB bandpass gain and polarity control.

Output EQ: 8 parametric filters per channel with adjustable Q, ±15 dB boost/cut. This 8-filter EQ section can be bypassed.

Delay: For signal alignment of driver; 50 ms of total delay.

SubHarmonic Synth: Takes the low-frequency content of the input signal and "synthesizes" a new signal that is the same as the input signal but one octave lower. The new synthesized signal is then mixed with the original signal to create the effect. New users now have control over frequency, gain, and filter type.

Peak$_X$ Plus™ Limiter: User defeatable limiter that allows users to control Threshold, Attack, and Release times.

Presets: 50 total presets; 49 of which are user-definable.

Input/Output Connectors

Input Connectors: XLR, one per channel

Link/Out Connector: Loop-thru signal from input connector for linking another amplifier, one per channel.

Output Connectors: Two Neutrik® Speakon® NL4MP output connectors. Channel-1 Speakon® is wired with Ch. 1 and Ch. 2 outputs for use with optional single 4-conductor cable. Two binding post outputs (in parallel with Speakon® connectors).

HiQnet™ USB Connector: Type B, connects to HiQnet™ network.

Construction

Chassis: Steel

Front Panel: Cast aluminum

Cooling: Proportional speed fan with front-to-rear airflow.

Dimensions:
XTi 1002/2002/4002: 19" (W) x 3.5" (H) x 12.25" (D)
XTi 6002: 19" (W) x 3.5" (H) x 16.2" (D)

Net Weight:
XTi 1002/2002/4002: 18.5 lbs (8.4kg)
XTi 6002: 24.0 lbs (10.9kg)

Shipping Weight:
XTi 1002/2002/4002: 21.5 lbs (9.8kg)
XTi 6002: 30.0 lbs (13.6kg)

Regulatory Certifications

Other Applications

Installed, Cinema, Touring

The XTi Series of Crown® amplifiers are professional tools designed and built for portable PA applications. The series includes four models which are similar except for output power: XTi 1002, 2002, 4002 and 6002. All are rugged and lightweight, and offer unmatched value in their class. XTi-Series amplifiers feature an LCD screen with speaker presets for crossover frequencies, EQ, limiting, delay, and a subharmonic synthesizer. Other features include a switch-mode universal power supply, useful function indicators, proportional-speed fan-assisted cooling, XLR inputs, Speakon® and binding-post outputs, short-circuit protection and more.

PORTABLE PA

XLS DriveCore™ Series: **Performance and Flexibility**
XLS1000, XLS1500, XLS2000, XLS2500

INNOVATION

FEATURES

- High Performance, Lightweight Class-D amplifier – weighs less than 11 lbs
- Integrated PureBand™ Crossover system ensures seamless transitions from low to high frequency drivers
- Integrated Peak$_X$™ Limiters provide maximum output while protecting your speakers
- XLR, 1/4", RCA Inputs ensure compatibility with any source
- 1/4" Inputs can be used as loop-thrus to distribute signal to additional amplifiers

POWER OUTPUT*

Models	2-ohm Dual (per channel)	4-ohm Dual (per channel)	8-ohm Dual (per channel)	8-ohm Bridge	4-ohm Bridge
XLS1000	**550W**	**350W**	**215W**	**700W**	**1,100W**
XLS1500	**775W**	**525W**	**300W**	**1,050W**	**1,550W**
XLS2000	**1,050W**	**650W**	**375W**	**1,300W**	**2,100W**
XLS2500	**1,200W**	**775W**	**440W**	**1,550W**	**2,400W**

*Maximum average power in watts at 0.5% THD, 1 kHz.

SPECIFICATIONS

Performance

Sensitivity (for full rated power at 4 ohms)**:** 1.4 Vrms.

Frequency Response
(at 1 watt, 20 Hz to 20 kHz): +0 dB, –1 dB.

Signal-to-Noise Ratio
Rated as dBr to full rated 8 ohms power output (A-weighted):
XLS1000: > 97 dB.
XLS1500, XLS2000, XLS2500: > 103 dB.

Total Harmonic Distortion (THD): < 0.5%.

Intermodulation Distortion (IMD):
(60 Hz and 7 kHz at 4:1) from full rated output to –30 dB: < 0.3%.

Damping Factor (8 ohm) 10 Hz to 400 Hz:
> 600.

Crosstalk (below rated 8 ohm power)**:**
at 1 kHz: > 85 dB.
at 20 kHz: > 60 dB.

Input Impedance (nominal)**:**
20 kilohms balanced, 10 kilohms unbalanced.

Load Impedance: 2 to 8 ohms per channel in Stereo, 4 to 8 ohms in Bridge Mono.

AC Line Voltage and Frequency Configurations Available (±10%): 120 VAC 60 Hz, 100 VAC 50/60 Hz, 220 and 240 VAC 50 Hz.

Controls

Level: Two front-panel rotary level controls, one for each channel.

LCD Screen: Back-lit LCD allows for crossover configuration, amp mode configuration and clip compressor configuration.

Menu/Prev/Select: Three buttons located near the LCD screen that are used to configure and access the integrated processing.

Power: Front-panel switch; on when in the IN position. Blue LED will illuminate when on.

Circuit Breaker: Back-panel breaker provides overload protection.

PureBand™ Crossover System

Crossover Filter:
Linkwitz-Riley 24dB per ocatve.

Crossover Mode:
Crossover (CH1=LPF, CH2=HPF),
Low Pass (both channels LPF),
High Pass (both channels HPF),
Bridge (LPF or HPF).

Peak$_X$™ Limiters: Channel independent clip limiter designed to provide maximum output while protecting your loudspeakers.

Indicators

Signal Presence Indicators: Two green LEDs, one for each channel, illuminate when the channel's input signal exceeds –40 dBu.

–10 Indicator: Green LED flashes when output signal exceeds –10 dB below clip.

–20 Indicator: Green LED flashes when output signal level exceeds –20 dB below clip.

Clip Indicators: Two red LEDs, one for each channel, illuminate when the channel's output is being overdriven.

Thermal Indicator: Two red LEDs, one for each channel, illuminate when thermal compression begins.

Input/Output

Input Connectors: XLR (one per channel), 1/4 inch (one per channel), and RCA (one per channel). The 1/4 inch inputs can be used as loop-thrus to distribute signal to multiple amplifiers.

Output Connectors: Two 4-Pole Speakon® Output Connectors accept 2-pole or 4-pole Speakon® connectors. The top Speakon connector is wired for both channels so it can be used for bridge-mono wiring or for stereo wiring of two speakers to a single Speakon connector.

One pair of back-panel binding posts per channel; accepts banana plugs or bare wire. (European models do not accept banana plugs.)

Protection

XLS Series amplifiers provide extensive protection and diagnostic capabilities, including output current limiting, DC protection, circuit breaker, and thermal protection.

Construction

Ventilation: Flow-through ventilation from front to back.

Cooling: Internal heat sinks with forced-air cooling for rapid, uniform heat dissipation.

Air Volume Requirements (per minute per unit): 80.15 ft^3 (2.27 m^3).

Dimensions:EIA Standard 19-inch (48.3-cm) rack mount width (EIA RS-310-B), 3.5-inch (8.9-cm) height.
XLS1000/1500: 8.10-inch (20.6-cm) depth.
XLS2000/2500: 10.35-inch (26.3-cm) depth.

Weight

Net Weight:
XLS1000: 8.6 lb (3.9 kg)
XLS1500: 8.6 lb (3.9 kg)
XLS2000: 10.75 lb (4.9 kg)
XLS2500: 10.75 lb (4.9 kg)

Shipping Weight:
XLS1000: 13.6 lb (6.2 kg)
XLS1500: 13.6 lb (6.2 kg)
XLS2000: 15.75 lb (7.1 kg)
XLS2500: 15.75 lb (7.1 kg)

Regulatory Certifications

Other Applications

Installed, Cinema

Take command of center stage with Crown's new XLS amplifiers. The high-performance class-D amplifier combined with its integrated PureBand™ Crossover System deliver unmatched performance and sound; while its multiple inputs let you plug in anything you want. **Peak$_X$™** Limiters effortlessly protect your speaker investment, and at 11 pounds moving from show to show is nearly effortless. Powerful, flexible, portable, and reliable – RUN THE SHOW with a power amplifier designed to play hard all night long.

2012

Crown Tour Sound Product Line

VRack

I-Tech HD Series

SOUND

I-Tech 4x3500HD
DriveCore™ Series

Macro-Tech i Series

VRack Series:
Complete Amplification System
VRack

FEATURES

- Three IT12000HD amplifiers
- Fully assembled package from one source
- Worldwide power distribution with both L21-30 and 32A CEE-Form connections
- Flexible input panel with Analog, AES, and VDrive
- Versatile output panel
- Fail-over AES and network connection
- Rear rack lighting
- VDrive AES digital distribution over CAT5
- Built-in network control
- Built-in captive suspension
- Shock-mounted rack
- Removable dolly board
- Side-storing rack doors
- Entire package is UL/CSA/ETL
- HiQnet™ control

CROWN'S VRACK SYSTEM

We know you've got enough to worry about in preparing your venue for each performance. That's why the new VRack, designed by Crown for optimum performance and setup simplicity, puts all your amplification needs in one customized, turnkey package, complete with full safety approvals.

With Crown-engineered components already built in, it provides you with an easy-to-configure, all-in-one amplifier solution that eliminates the time-consuming process of building amp racks, and frees your technical team to handle other important setup tasks.

The VRack delivers superb power distribution anywhere in the world and features innovative software for convenient, simplified control, giving you a versatile, worry-free rack system that's always ready to go.

VRACK INCLUDES

Summary

Three I-Tech HD 12000 amps. A custom package from one source. All components professionally engineered by Crown. Simplified configuration capabilities for easier setup in any market.

VRack Industry's Exclusives

Worldwide power distribution – goes anywhere, plays anywhere. Power distro, rigging hardware and entire rack are safety certified to UL/CSA/ETL – all safety information in order for local fire/safety inspectors.

Crown OmniDriveHD™ Digital Signal Processing, including:

- Level**MAX**™ Limiters
- Audibly superior FIR Filters
- One amplifier per phase
- Innovative Power Factor Correction technology
- Optimal output at all AC main voltages and frequencies
- 5 pin CEE form and 5 pin Hubbell Twist Lock

Innovative software allows:

- Monitoring and adjustment on rack-by-rack basis
- All changes for all 3 amps made with one interface
- Monitors input metering (peak and RMS), output metering (peak and RMS) and overall gain reduction
- Built-in network and AES failover protects speakers in case of AC mains loss
- Standardized package configurations designed to optimize speaker performance
- Greater cross-renting options with "go anywhere" capability

More Versatility

Allows multiple configurations for different types of speakers. AES, Analog and Network inputs for multiple connections. Dimensions permit easy shipment: US and European truck configurations, sea containers, etc. Captive suspension provides lifting and hoisting options for venue flexibility. Run 120VAC or 208VAC (US) or 220VAC to 240VAC (international) with the flip of a switch.

Regulatory Certifications

HiQnet systemarchitect™ | JBL HiQnet performance manager™ | Available on the App Store

With three I-Tech HD 12000 amps in each VRack, power concerns are not a concern at all. The completely original switching power amp design provides greater fidelity at high and low power levels, more efficiency because it produces less waste heat, and more reliability because it's not subjected to excessive heat or stressed to its limits. With constant access to full rail voltage, you'll always have power on demand, and it greatly extends the V-I Plane boundaries to drive speaker loads no other amplifier can.
For good measure, Crown's innovative Power Factor Correction technology and optimal output at all AC main voltages and frequencies, and one amp per phase, all factor into the unrivaled power generated by the VRack. Not to mention the 5 pin CEE Form and 5 pin Hubbell® Twist-Lock® for global power distribution. Even better is something else only Crown does: the power distro, rigging hardware and entire rack are all safety-certified to UL/CSA/ETL standards for local fire and safety inspectors.

TOUR SOUND

I-Tech HD Series: **Excellence Without Compromise**
IT5000HD, IT9000HD, IT12000HD

RAISING THE BAR–AGAIN

HiQnet systemarchitect™

JBL HiQnet performance manager™

Available on the App Store

FEATURES

- BSS OMNIDRIVE**HD**™ DSP processing with IIR and linear phase FIR filters
- Global Power Supply designed to deliver maximum power no matter where your schedule takes you.Universal AC input accepts100-240VAC, 50/60 Hz (±15%)
- High power density, up to 9000 watts in a 2U chassis
- Highest output voltage in the industry (200V peak) provides clean transient peaks
- 5th-generation patented Class I (BCA®) circuitry
- Front-panel USB connector transfers presets to/from a USB drive to the amp's DSP
- True Ethernet backbone–fast, reliable and scalable

POWER OUTPUT*

Model	20 mS BURST 2-ohm Dual (per ch.)	2-ohm Dual (per channel)	2-ohm Dual (per channel, 1 kHz)	4-ohm Dual (per channel)	8-ohm Dual (per channel)	4-ohm Bridge	8-ohm Bridge
IT5000HD	**3,000W**	**2,000W**	**2,000W**	**2,500W**	**1,250W**	**4,000W**	**5,000W**
IT9000HD	**4,700W**	**2,800W**	**3,500W**	**3,500W**	**1,500W**	**5,600W**	**7,000W**
IT12000HD	**6,000W**	**3,750W**	**4,500W**	**4,500W**	**2,100W**	**7,500W**	**9,000W**

*Guaranteed minimum power in watts at 20 Hz-20 kHz with 0.1% THD

SPECIFICATIONS

Summary Specifications

Frequency Response (at 1 watt, 20 Hz - 20 kHz): ±0.25dB.

Signal to Noise Ratio below rated full-bandwidth power, A-weighted: > 112 dB.

Total Harmonic Distortion (THD) at full rated power: < 0.1%.

Intermodulation Distortion (IMD) 60 Hz and 7 kHz at 4:1, from full rated output to –35 dB: < 0.2%.

Damping Factor (20 Hz to 100 Hz at 8 ohms): > 5000.

Crosstalk (below rated power, 20 Hz to 1 kHz): > 80 dB.

Common Mode Rejection (CMR) (20 Hz to 1 kHz): > 70 dB typical.

Latency (analog, digital inputs): 1.13 mS analog, 1.81 mS digital (96 kHz).

A/D, D/A Converters: 24-bit 192 kHz Cirrus Logic.

Digital Input: AES/EBU, 24-bit, 32-96 kHz. Onboard sample-rate converter.

Network: Onboard TCP/IQ and HiQnet, compatible with standard 100 Mb Ethernet hardware.

DSP: 24-bit conversion with 32-bit, floating-point DSP processing. World-class IIR and linear phase FIR filters. Has 64 assignable filters with 9 different filter types. Includes all-pass filters, over 2 seconds of delay available per channel, and dual uncorrelated-noise and sine-wave generators.

Load Impedance: (Note: Safe with all types of loads) Stereo: 1/2/4/8/16 ohms. Bridge Mono: 2/4/8 ohms.

Input Sensitivity (referenced to 8 ohm rated output): Adjustable in 0.1V steps from 1.4V to 7.75V.

Required AC Mains: Universal AC input, 100-240VAC, 50/60 Hz (±15%). Maximum AC mains voltage 277VAC.

AC Line Connector: Five cordsets supplied with amplifier (USA, UK, European, Australia, India).

Front Panel Indicators, Controls and Connectors

Indicators: Bridge mode, Ready, Signal level, Clip, Thermal error, Fault, Network data, Power, AC mains.

LCD Control Screen and Controls: These let the user adjust the amplifier's attenuation and muting, configure the amp, set up and view error monitoring (such as temperature and load supervision), set IP and HiQnet addresses from the front panel, and recall DSP presets. The presets allow the user to quickly reconfigure the amp for various applications.

Level Controls (Encoders): Speed-sensitive rotary encoders, 0.5 dB steps, range 0 to –100 dB. These two knobs affect the Channel-1 and Channel-2 output levels. They also select Menu items and adjust parameter values that are displayed on the LCD Control Screen.

Power Switch: Push-on/push-off switch with built-in green AC mains present indicator.

USB 2.0 Connector: Accepts a USB drive to transfer presets from the drive to the amplifier DSP, and vice versa.

Back Panel Connectors, Controls, and Indicators

Connectors: Balanced XLR analog inputs, balanced analog XLR loop-thru outputs, AES/EBU digital input, AES/EBU digital loop-thru output, 4-Pole Speakon output connectors, binding post output connectors, power cord, EtherCon® Ethernet connector for networking via HiQnet or CobraNet.

Reset Switch/Circuit Breaker: If the current draw of the amplifier exceeds safe limits, this breaker automatically disconnects the power supply from the AC mains. The switch resets the circuit breaker.

Preset Indicator: LED flashes to signal the number of the current preset if active. LED is green if the preset values have not been changed once loaded. LED is yellow if the preset values have been changed since they were loaded.

Construction

Cooling: Dual-zone, microprocessor controlled, continuously variable speed fans, front-to-back airflow.

Dimensions: 19 in. (48.3 cm) W x 3.5 in. (8.9 cm) H x 16.2 in. (41.1 cm) D.

Weight: 28 lbs (12.7 kg) net, 36 lbs (16.3 kg) shipping.

Included Accessories: Rear rack ears, rack screws, operation manual, power cords, foam air filter.

Regulatory Certifications

Other Applications

Installed, Cinema

Crown continues the tradition of excellence and innovation with the Crown® I-Tech HD Series, delivering unmatched versatility, power and performance for touring sound applications. Featuring onboard high-definition BSS OMNIDRIVE**HD**™ DSP with 24-bit, 192 kHz Cirrus Logic SHARC A/D and D/A converters, the I-Tech HD Series also offers a new software interface that provides easier system-level changes, and includes a configuration wizard. Providing up to 9 kW continuous power in a 2U rack space and delivering the highest output voltage in the industry, the I-Tech HD Series outperforms *all* the competition.

TOUR SOUND

I-Tech 4x3500 HD: **Excellence Without Compromise**
DriveCore™ Series

More Flexibility, No Compromise. NO COMPARISON

HiQnet systemarchitect™

HiQnet performance manager

Available on the App Store

FEATURES

- BSS OMNIDRIVE**HD**™ DSP processing with Industry Leading IIR filters and linear phase FIR filters
- The only Tour Sound Amplifier that provides four routable inputs to any output (analog, AES, VDRive, or CobraNet)
- Level**MAX**™ peak voltage and RMS power limiters communicate with each other, resulting in smooth and accurate response, better sound
- 6th-generation patented Class-I (BCA®) circuitry couples power efficiently to the load and provides low AC current draw
- Global Power Supply with Power Factor Correction designed to deliver maximum power no matter where your schedule takes you. Universal AC input accepts100-240VAC, 50/60 Hz (±15%)

POWER OUTPUT*

Model	2-ohm Dual (per channel)	4-ohm Dual (per channel)	8-ohm Dual (per channel)	4-ohm Bridge	8-ohm Bridge
	20 Hz - 20 kHz Bench Power (2 sec. all channels driven)				
IT4x3500HD	**2,000W**	**2,000W**	**1,500W**	**4,000W**	**4,000W**
	1 kHz 20ms Burst				
	3,500W	**3,500W**	**1,900W**	**7,000W**	**8,200W**

*Guaranteed minimum power in watts at 20 Hz-20 kHz with 0.35% THD

▸ SPECIFICATIONS

Summary Specifications

The power amplifier shall be a solid-state four-channel model employing Class I (BCA®) output circuitry.

The amplifier shall contain **protection from shorted**, open and mismatched loads, general overheating, DC, high frequency overloads, under/over voltage, and internal faults.

If an amplifier channel starts to overheat, the **Thermal Level Control** (TLC) circuit shall engage the channel's input compressor in an amount proportional to the amount of overheating, in order to generate less heat. If the channel becomes too hot for safe operation, the channel shall shut off, and the Thermal Indicator for that channel shall illuminate brightly to alert the user that a state of thermal stress or overload has caused the channel to shut down.

The **front-panel controls** shall be a power switch, Menu/Exit button, Previous button, Next button, Encoder knob with push button, and a touch screen color LCD screen. The encoder knob and button combined with the touch screen shall allow changes to be made to the amplifier via the LCD screen.

Rear-mounted controls shall include a reset switch for the circuit breaker.

The **recommended load impedance** in Non-Bridge/Mono mode shall be 1/2/4/8/16 ohms. The load impedance in Bridge-Mono mode shall be 2/4/8 ohms across Channels 1+2 and/or Channels 3+4. The amplifier shall be safe when driving any kind of load, including highly reactive ones.

The **rear-mounted output connectors** for the Speakon version shall be two high-current 50A Neutrik SpeakON NL4MLP (mates with NL4FC or NL4) and one high-current 50A Neutrik SpeakON NLT8MP (mates with NL8FC). The rear-mounted output connectors for the Binding Post version shall be four pairs of high-current, 60A color-coded 5-way binding posts (for banana plugs, spade lugs, or bare wire).

The **rear-mounted input connectors** shall be a 3-pin female XLR analog input connector for each channel, and two 3-pin female XLR digital input connectors that accepts a digital signal in the AES3 format for Channel inputs 1+2 and 3+4.

The **rear-mounted Ethernet connector** accepts an RJ-45 EtherCON connector for HiQnet™, CobraNet™ and VDrive from a standard network cable. Built into this connector shall be a yellow LINK ACTIVITY indicator that shows network activity, and a green 100Mb indicator that shows a 100Mb network connection.

The **rear-mounted Data indicator** shall be a yeallow LED that indicates data activity. The rear-mounted Preset indicator shall be a yellow LED that flashes to signal the number of the current preset active.

The I-Tech 4x3500HD DriveCore Series shall be fully compatible with Harman Pro System Architect, JBL HiQnet Performance Manager, and the Powered by Crown iOS app. The I-Tech 4x3500HD DriveCore Series shall also be compatible with CobraNet networks.

Front panels indicators shall include a 4.3" Color Touch Screen LCD with backlight to control the amplifier's setup and operation. A yellow Bridge-Mode Indicator illuminates when the amplifier is set to Bridge-Mono mode for Channels 1+2 and/or Channels 3+4. A Ready Indicator (one per channel) illuminates when the channel is initialized and ready to produce audio output and is off when the amplifier is in standby mode via the control software, a green Signal Indicator (one per channel) that illuminates to indicate the presence of input signals above -40dBu, a red Clip Indicator that illuminates when the THD of the channel's output signal reaches the onset of audible clipping and illuminates during Thermal Level Control (TLC) limiting, a red Thermal Indicator (one per channel) that illuminates when the channel has shut down due to thermal stress or overload, a red Fault Indicator (one per channel) that illuminates when the amplifier output channel has stopped operating, a yellow Data Indicator that flashes during network data activity, a blue Power Indicator that illuminates when the amplifier has been turned on and AC power is available (and flashes when the AC line voltage is 15% above or below the nominal rated value), and a green AC Mains Preset Indicator in the power switch that indicates AC power is preset at the power cord.

The amplifier shall **include onboard BSS** OMNIDRIVE**HD** DSP with 24-bit conversion and 32-bit floating-point processing, DSP presets in firmware and downloadable, load supervision, error reporting, and a global power supply with Power Factor Correction.

The amplifier shall meet or exceed the following performance criteria.

Input sensitivity for rated output: adjustable in 0.1V steps from 1.4V to 7.75V.

Voltage gain: 37.9 dB to 23 dB.

Rated output of all four channels driven with 0.35% THD (20Hz to 20kHz): 2000 watts per channel into 2 ohms, 2000 watts per channel into 4 ohms, and 1900 watts per channel into 8 ohms.

Rated output in Bridge-Mono mode with Channel 1+2 and Channel 3+4 both in Bridge-Mono mode and driven at 0.35% THD (20Hz to 20kHz): 4000 watts into 4 ohms and 4000 watts into 8 ohms.

Frequency Response at 1 watt, 20Hz to 20kHz: =/-0.25dB.

Signal to Noise Ration below rated power, A-weighted: greater than 112dB.

Total Harmonic Distortion at full rated power: less than 0.35%.

Intermodulation Distortion (60Hz and 7kHz at 4:1 , from full rated output to -35dB): less than 0.35%.

Damping Factor (20Hz to 100Hz): greater than 5000.

Crosstalk (below rated power, 20Hz to 1kHz): greater than 80 dB.

Common Mode Rejection (20Hz to 1kHz): greater than 70dB.

DC Output Offset: less than +/-3mV.

Input Impedance (nominal) 20 kilohms balanced, 10 kilohms unbalanced.

Maximum Input Level: +15 dBu or +21 dBu, depending on the input sensitivity.

Latency (analog, digital inputs): 1.13 mS analog, 1.81 mS digital (96kHz).

The amplifier chassis shall be constructed of aluminum with a durable powder coat finish with microprocessor controlled, continuously variable-speed forced-air ventilation from the front panel to the back panel

The **dimensions** of the amplifier shall allow for 19 inch (48.3 cm) EIA standard (RS-310-B) rack mounting. The amplifier shall be 3.5 inches (8.9 cm) tall, and 16.95 inches (43.1 cm) deep behind the rack mounting surface.

The amplifier shall **weigh** 29 pounds (13.1 kg).

The amplifier shall be designated the I-Tech 4x3500HD DriveCore Series.

Regulatory Certifications

The I-TechHD DriveCore Series offers amazing power, light weight and ease of use for touring sound applications. Unlike other amplifiers, it includes onboard high-definition DSP, a Color Touchscreen LCD control screen, and a built-in network connection. Modern power amplifiers are sophisticated pieces of engineering capable of producing extremely high power levels.

Macro-Tech i Series: **The Legend Continues**
Macro-Tech i Series

THE LEGEND CONTINUES

FEATURES

- The Macro-Tech® i Series continues the Crown® Macro-Tech legacy of unparalleled sonic accuracy and detail, putting sound quality above all else
- Patented, cutting-edge Class-I circuitry gets more power out of an amplifier with less waste
- Rugged construction ensures that all Macro-Techs are built to withstand years of abuse on the road
- Global Power Supply — designed to deliver maximum power no matter what country you work in
- Built-in load, line voltage, input and output monitoring
- Standard Ethernet networking via Performance Manager™ lets system operators monitor and control the amplifier from any location

HiQnet systemarchitect™

JBL HiQnet performance manager™

Available on the App Store

POWER OUTPUT*

Model	20 mS BURST 2-ohm Dual (per ch.)	2-ohm Dual (per channel)	2-ohm Dual (per channel, 1 kHz)	4-ohm Dual (per channel)	8-ohm Dual (per channel)	4-ohm Bridge	8-ohm Bridge
MA-5000i	**3,000W**	**2,000W**	**2,000W**	**2,500W**	**1,250W**	**4,000W**	**5,000W**
MA-9000i	**4,700W**	**2,800W**	**3,500W**	**3,500W**	**1,500W**	**5,600W**	**7,000W**
MA-12000i	**6,000W**	**3,750W**	**4,500W**	**4,500W**	**2,100W**	**7,500W**	**9,000W**

*Guaranteed minimum power in watts at 20 Hz-20 kHz with 0.1% THD

SPECIFICATIONS

Performance

Frequency Response
(at 1 watt, 20 Hz - 20 kHz into 8 ohms): ±0.25 dB.

Signal to Noise Ratio
(below rated full-bandwidth power, A-weighted): >112 dB.

Total Harmonic Distortion (THD)
(at 2 watts into 8 ohms): < 0.1%.

Total Harmonic Distortion (THD) Plus Noise (at full rated power): < 0.35%, 20 Hz to 20 kHz.

Intermodulation Distortion (IMD)
(60 Hz and 7 kHz at 4:1, from full rated output to –30 dB): < 0.35%.

Damping Factor (20 Hz to 100 Hz at 8 ohms): > 5000.

Crosstalk (below rated power, 20 Hz to 1 kHz): > 80 dB.

Common Mode Rejection (CMR)
(20 Hz to 1 kHz): 55 dB, typically >70 dB.

DC Output Offset (shorted input): < ± 3 mV.

Input Impedance (nominal):
10 kilohms balanced, 5 kilohms unbalanced.

Maximum Input Level: +20 dBu typical.

Network: Onboard HiQnet™, compatible with standard 100 Mb Ethercom hardware.

Load Impedance: (Note: Safe with all types of loads)
Stereo: 1/2/4/8/16 ohms.
Bridge Mono: 2/4/8 ohms.

Input Sensitivity (referenced to 8 ohm rated output): 1.4V, 32 dB gain, and 26 dB gain.

Voltage Gain (referenced to 8 ohm rated output):
MA-5000i: 37.1 dB to 22.2 dB
MA-9000i: 37.9 dB to 23.0 dB
MA-12000i: 39.3 dB to 24.5 dB

Required AC Mains: Universal AC input, 100-240VAC, 50/60 Hz (±10%). Maximum AC mains voltage 264VAC.

AC Line Connector: Five cordsets supplied with amplifier (USA, UK, European, Australia, India).

Front Panel Controls and Indicators

Bridge Mode Indicator: Amber LED illuminates when the amplifier is set to Bridge-Mono mode.

Ready Indicator: Green LED, one per channel.
On (bright): Ready.
On (dim): Onset of compression.
Off: Thermal failure.

Signal Indicators: One green LED per channel.
Solid green: Input signal is above –40 dBu.
Bright green: Channel's output signal has reached the onset of audible clipping.

Power Indicator: Blue LED indicates amplifier has been turned on and AC power is available. The LED will flash when the AC line voltage is 10% above or below the nominal rated value.

Data Indicator: Yellow LED on front panel indicates network data activity. Data indicator flashes only when the amplifier is polled for data, or is polled to see whether it is online

Power Switch: Push-on/push-off switch with built-in green AC mains present indicator.

Volume Control: Precision detented attenuator with 31 steps, press-and-hold mute function.

Volume Control LED Ring: A ring of green LEDs around each volume control show the position of the control. Entire ring flashes when channel is muted. Can be converted to be a level meter.

Back Panel Controls, Indicators and Connectors

Power Cord Connector: Detachable 20 amp IEC inlet. Cord locks with suppliled cord retention clip. Voltage range is indicated above IEC inlet.

Reset Switch/Circuit Breaker: If the current draw of the amplifier exceeds safe limits, this breaker automatically disconnects the power supply from the AC mains. The switch resets the circuit breaker.

Output Connectors: Two high-current, 50A Neutrik® Speakon® NL4MLP (mates with NL4FC or NL4), one per channel. Ch 1 Speakon® is wired with Ch 1 and Ch 2 outputs for use with single 4-conductor cable. Two pairs of high-current, 60A color-coded 5-way binding posts (for banana plugs, spade lugs or bare wire).

Analog Input Connectors: A 3-pin female XLR connector for each channel.

Analog Loop Thru Connectors: Two male XLR passive analog loop through.

Mode Switch/Indicator: Sets amplifier to Stereo, Bridge, or Input Y mode. OFF=Stereo, YEL=Bridge, GRN=Y.

Network Connectors: Two Neutrik® Ethercon connector accepts RJ-45 type connectors for HiQnet™ networking. Next to each connector is a yellow LINK ACT indicator that shows network activity, and a green 100Mb indicator that shows a 100Mb network connection.

Data Indicator: Yellow LED on back panel indicates network data activity. Data indicator flashes only when the amplifier is polled for data, or is polled to see whether it is online.

Preset Indicator: Green/yellow LED flashes to signal the number of the current preset. LED is green if current preset is active, or is yellow if current preset is modified.

Input Sensitivity Switch: Three-position switch providing 1.4V, 32 dB, and 26 dB settings for both channels.

Firmware/Software

Firmware can be updated at www.crownaudio.com > Support > Downloads.

Software features: Same as PIP-Lite module (except no Listen Bus): User Presets, Clip Event Monitor, Input Signal Level Monitor, Output Signal Level Monitor, Thermal Headroom Level Monitor, Power/Standby Control, Signal Mute, Polarity Inverter, Input Signal Fader, Dynamic Gain Monitors (Ghost Faders), Amplifier Information, User and Channel Labels, Amplifier Mode, Amplifier Output Mode, Line Voltage Monitor, Error Reporting, Auto Standby, Input Signal Compressor/Limiter, Peak Voltage Limiter, Average Power Limiter, Clip Eliminator, Thermal Limiter, Limiter Tie, Load Supervision.

Construction

Cooling: Dual-zone, microprocessor controlled, continuously variable speed fans, front-to-back airflow.

Front Panel: Cast aluminum with integrated handles.

Dimensions: 19 in. (48.3 cm) W x 3.5 in. (8.9 cm) H x 16.2 in. (41.1 cm) D.

Weight: 28 lbs (12.7 kg) net, 36 lbs (16.3 kg) shipping.

Protection: Amplifier is protected against reactive loads, faults and shorts. If one channel experiences a catastrophic failure, the entire amplifier will shut down.

Included Accessories: Rear rack ears, rack screws, operation manual, power cords, foam air filter.

Regulatory Certifications

Other Applications

Installed, Portable PA

The Crown Macro-Tech i Series amplifiers continue the Macro-Tech legacy of unparalleled sonic accuracy and detail, putting sound quality above all else. Their patented, cutting-edge Class-I circuitry gets more power out of an amplifier with less waste. Each model features a Global Power Supply designed to deliver maximum power in any country. The i Series offers studio-quality analog signal processing with built-in load, line voltage, input and output monitoring. Standard Ethernet networking via System Architect provides integrated monitoring and control to give system operators access to the system from any location.

CINEMA

Crown Cinema Sound Product Line

DSi Series

DSi-8M

SOUND

CTs 2-Channel

CTs Multi-Channel

CINEMA SOUND

DSi Series: **2/4/8 Ohm**
DSi 1000, DSi 2000, DSi 4000, DSi 6000

ONE-TOUCH PERFORMANCE

FEATURES

- Intuitive front-panel LCD screen, automatic presets for popular JBL cinema speaker systems for quick, easy configuration
- Onboard digital signal processing includes crossovers, EQ filters, delay, and output limiting
- Computer connectivity via USB allows fast setup and configuration with HiQnet™ System Architect® software
- Rear-panel HD-15 connector provides easy input/output connectivity between DSi amplifiers and new DSi-8M System Monitor
- Barrier strip outputs, removable Phoenix-style input
- All models are THX®-approved

POWER OUTPUT

Models	2-ohm Dual (per channel)	4-ohm Dual (per channel)	8-ohm Dual (per channel)	4-ohm Bridge	8-ohm Bridge
DSi 1000	**700W*†**	**475W**	**275W**	**1,400W*†**	**950W**
DSi 2000	**1,000W***	**800W**	**475W**	**2,000W***	**1,600W**
DSi 4000	**1,450W***	**1,200W**	**650W**	**3,000W***	**2,400W**
DSi 6000	**3,000W***	**2,100W**	**1,200W**	**6,000W***	**4,200W**

Maximum average power in watts at 1 kHz at 0.5% THD. *With 1% THD. †Not rated for 100V versions.

SPECIFICATIONS

Performance

Voltage Gain at 1kHz:

DSi 1000: 30.5 dB
DSi 2000: 32.9 dB
DSi 4000: 34.2 dB
DSi 6000: 37.1 dB

Frequency Response: +0/–1 dB from 20 Hz to 20 kHz at 1 watt into 4 ohms.

Load Impedance: Safe with all types of loads. Rated for 2 to 8 ohms in Stereo mode, 4 to 16 ohms in Bridge-Mono mode. DSi 1000 A1 (100V version) is rated for 4 to 8 ohms in Stereo mode, 8 to 16 ohms in Bridge-Mono mode.

Sensitivity:

At 8 ohm rated output:
DSi 1000: 1.4V
DSi 2000: 1.4V
DSi 4000: 1.4V
DSi 6000: 1.4V

At 4 ohm rated output:
DSi 1000: 1.3V
DSi 2000: 1.2V
DSi 4000: 1.3V
DSi 6000: 1.3V

At 2 ohm rated output:
DSi 1000: 1.1V
DSi 2000: 1.0V
DSi 4000: 1.0V
DSi 6000: 1.1V

Signal to Noise Ratio (below rated 8-ohm power at 1 kHz):
100 dB (A weighted).

Damping Factor: Better than 500 from 20 Hz to 400 Hz.

Crosstalk: > 70 dB below rated power, 20 Hz to 1 kHz, A-weighted.

Input Stage: Input is electronically balanced and employs precision 1% resistors.

Input Impedance (nominal): 20 k ohms, balanced; 10 k ohms, unbalanced.

AC Line Voltage and Frequency Configurations Available: 100V, 120V, 220-240V, 50/60 Hz.

AC Line Current:

DSi 1000: 6.8A
DSi 2000: 8.3A
DSi 4000: 10.5A
At Idle: Draws no more than 38 watts.

DSi 6000: 15.3A
At Idle: Draws no more than 180 watts.

Operating Temperature: 0° C to 40° C at 95% relative humidity (non-condensing).

DSP Section

Input EQ: 6 parametric filters per channel with adjustable Q, ±15 dB boost/cut. Also adjustable high and low shelving filters. This 8-filter EQ section can be bypassed.

Crossover Filters: Highpass and lowpass per channel. Butterworth 6/12/18/24 dB per octave, Linkwitz-Riley 24/48 dB per octave. Also includes ±15 dB bandpass gain and polarity control.

Output EQ: 8 parametric filters per channel with adjustable Q, ±15 dB boost/cut. This 8-filter EQ section can NOT be bypassed. Filters are enabled individually.

Output Limiter: Prevents clipping and protects loudspeakers. Choice of –3, –6, or –12 dB threshold per channel.

Delay: Up to 50 msec total delay per channel.

Presets: 20 presets. One is "DSP OFF." Fifteen are factory-set for JBL Cinema systems. Four are user-definable.

Front Panel Controls and Indicators

Level: Detented rotary level control, one per channel.

Power Switch: On/off switch applies AC power to the amplifier.

Sel/Prev/Next Buttons: Three buttons near the LCD screen are used to access menu items and front panel lockout.

LCD Screen: Backlit liquid crystal display shows speaker presets and signal processing.

Signal Indicator: Green LED, one per channel, illuminates when a very low-level signal is present at input.

–10 Indicator: Green LED flashes when output signal exceeds –10 dB below clip.

–20 Indicator: Green LED flashes when output signal level exceeds –20 dB below clip.

Ready Indicator: Green LED, one per channel, illuminates when the amplifier is ready to produce audio.

Clip Indicator: Red LED, one per channel, turns on at the threshold of audible distortion.

Temp Indicator: Red LED, one per channel, illuminates under excessive temperature conditions.

Power Indicator: Blue LED illuminates when the amplifier has been turned on and has power.

Rear Panel Controls and Connectors

AC Line Connector:
DSi 1K, 2K, 4K: NEMA 5-15P (15A).
DSi 6000: NEMA 6-10P (20A)
IEC C20 (20A).

Input Connector: Two 3-pin removable Phoenix-type connectors each accept a balanced line-level input signal.

Output Connectors: 4-position barrier strip with connectors for dual louspeakers or bridge-mono loudspeaker.

HiQnet USB Connector: Type B, connects to a HiQnet network.

HD-15 Connector: For cinema I/O compatibility with DSi-8M System Monitor. See Figure 1.

Protection

DSi-Series amplifiers are protected against shorted, open or mismatched loads; overloaded power supplies; excessive temperature; chain destruction phenomena; excessive output current, and input overload damage. They also protect loudspeakers from input/output DC, large or dangerous DC offsets and turn-on/turn-off transients

Construction

Chassis: Steel.

Cooling: Proportional speed fan with front-to-rear airflow.

Dimensions: EIA Standard 19-in. rack mount width (EIA RS-310-B), 3.5 in. (8.9 cm) high and 12.25 in. (31.11 cm) deep behind mounting surface. DSi 6000 is 16.2 in. (41.15 cm) deep.

Net Weight:
DSi 1K. 2K, 4K: 19 lb (8.6 kg).
DSi 6K: 24 lb (10.9 kg).

Shipping Weight:
DSi 1K, 2K, 4K: 22 lb (10.0 kg).
DSi 6K: 30 lb (13.6 kg).

Regulatory Certifications

Note: All measurements apply to all models of DSi Series amplifiers in stereo mode with 8-ohm loads and an input sensitivity of 26 dB gain, 1 kHz at rated power unless other otherwise specified. Specifications for units supplied outside the U.S.A. may vary slightly at different AC voltages and frequencies.

The Crown® DSi Series of power amplifiers provides onboard digital signal processing including crossovers, EQ filters, delay and output limiting. A rear panel HD-15 connector provides easy input/output connectivity between DSi amplifiers and the new DSi-8M System Monitor. The intuitive front panel LCD screen guides installers through a setup process—featuring presets for the industry-standard JBL cinema loudspeaker systems—to make configuration quick and easy. At the touch of a button, Crown's DSi cinema amplifiers deliver perfectly matched performance with each award-winning JBL ScreenArray® system, making this the ultimate cinema solution.

DSi-8M: **Convenient Monitoring**
DSi-8M

PERFORMANCE MONITOR

FEATURES

- Compact 2-rack unit
- 8 channels for monitoring processor or amplifier inputs
- All inputs and outputs are balanced to interface with new cinema processors
- No level jumps when switching between processor and amplifiers
- 25-pin D-sub connectors, plus removable terminal blocks and HD-15 for quick, hassle-free connections
- Designed to work with bi-amplified sound systems to monitor the high- and low-frequency outputs from the left, center and right channels

SPECIFICATIONS

Performance

Input Impedance (processor inputs): 10 kilohms.

Input Impedance (Processor Inputs): 10 k ohms.

Input Impedance (Power Amplifiers Inputs): > 50 k ohms.

Power Requirements: 100-240V , 50-60 Hz, 32 watts.

Front Panel Controls and Indicators

Channel Select Buttons and LEDs: Eight pushbutton switches, one for each input channel. Pressing a button monitors the signal from that channel, and lights the corresponding LED. Any combination of eight channels can be selected.

Volume Control: Rotary potentiometer with knob controls the volume of the internal or external speaker. Has no effect on the VU Bargraph Meter display.

Processor/Amplifier Selector Switch and LEDs: Pushbutton switch with corresponding LEDs selects inputs from cinema procesor or power amplfiers for monitoring.

VU Bargraph Meter: 12-segment meter displays input level of selected channels from –40 VU to +3 VU. May be calibrated by the rear-panel trim adjustment. Operates independently of the Volume Control.

Test Jack: 1/4" phone jack lets the user monitor the audio output of the DSi-8M. Inserting a mono or stereo 1/4" phone plug here disables the internal speaker and routes the audio output to the Test Jack.

Internal Speaker: For convenenient monitoring at the monitor panel.

Power Switch and Power LED: Rocker switch turns power on or off. LED illuminates when power is on.

Rear Panel Controls and Connectors

IEC AC Power Receptacle: Connects to an IEC AC power cord.

Input Connector 1: 10-pin Phoenix terminal block connects to the power amplifier speaker outputs for the Left Surround, Right Surround, Back Surround Left, Back Surround Right and Subwoofer channels. This connector lets you monitor the output of amplifiers that do not include HD-15 connector options.

Input Connector 2: 10-pin Phoenix terminal block connects to the power amplifier speaker output for the Left High, Left Low, Center High, Center Low, Right High and Right Low channels. This connector lets you monitor the output of amplifiers that do not include HD-15 connector options.

Amplifier Level Control: Trimpot adjusts the level of the input signals from the power amplifiers.

Processor Level: Trimpot adjusts the level of the input signals from the processor.

Outputs to Power Amplifier Inputs: The six HD-15 connectors in this section connect to DSi amplifiers for both input and output signals. The HD-15 connectors have two functions:

1. Connect DSi 8M outputs to DSi amplifier inputs.

2. Connect DSi amplifier outputs to DSi 8M inputs for monitoring.

Using VGA cables, the HD-15 connectors can be connected to Crown DSi power amplifier HD-15 connectors as described below.

HD-15 Connector 1: For cinema I/O compatibility. Connects to Ls/Rs amplifier.

HD-15 Connector 2: Connects to Bsl/Bsr amplifier.

HD-15 Connector 3: Connects to Rl/Rh amplifier.

HD-15 Connector 4: Connects to Sw amplifier.

HD-15 Connector 5: Connects to Ll/Lh amplifier.

HD-15 Connector 6: Connects to Cl/Ch amplifier.

Optional Input Connector: 25-pin D-sub connector connects to the EX output of the processor.

Bargraph Level: Trimpot adjusts the sensitivity of the front-panel VU Bargraph Meter.

Main Input Connector: 25-pin D-sub connector connects to the main outputs of the processor.

"EX" Selector Switch: 8-position DIP switch. Turn on switches 1-4 if system is without EX. Turn on switches 5-8 if system is with EX. This routes the correct Ls/Rs inputs to the DSi-8M circuitry.

Construction

Chassis: Steel.

Dimensions: EIA Standard 19-inch rack mount width (EIA RS-310-B), 3.5 inches (8.9 cm) high and 9.625 inches (24.4 cm) deep behind front mounting surface.

Net Weight:
10 lb 2 oz (4.63 kg).

Shipping Weight:
16 lb (7.26 kg).

Regulatory Certifications

The Crown® DSi-8M is a projection booth monitor designed to work with bi-amplified cinema systems using the Crown DSi Series amplifiers. All controls necessary for daily operation of the DSi-8M are easily accessible on the front panel. 8-channel monitoring allows you to monitor either the processor or the power amplifier's outputs: L, C, R, Ls, Rs, Bsl, Bsr, and Sub in any combination. Input levels from the processor and power amplifier can be adjusted independently. There are no huge level jumps when switching between processor and power amplifiers. The bargraph display can be calibrated to the reference level for your theater. The projectionist can see auditorium levels instantly.

CINEMA SOUND

CTS 2-CHANNEL

FEATURES

- High power density. All two channel models in a 2U chassis
- New Crown Switching Power Supply for lighter weight
- Selectable “Constant-Voltage” or low-impedance operation per channel
- 100V direct outputs on all models
- Fully PIP2™-compatible

POWER OUTPUT*

Models	2-ohm Dual (per channel)	4-ohm Dual (per channel)	70V Dual (per channel)	4-ohm Bridge
CTs 600	**150W**	**300W**	**300W**	**300W**
CTs 1200	**250W**	**600W**	**600W**	**500W**
CTs 2000	**1,000W**	**1,000W**	**1,000W**	**2,000W**
CTs 3000	**1,500W**	**1,500W**	**1,500W**	**3,000W**

*Maximum average power in watts at rated THD, 20 Hz - 20 kHz.

Crown Cinema Systems employ quality Crown professional amplifiers along with optional amplifier accessories for the best in cinema sound. Crown’s Digital B-Chain system, which provides the first all-digital cinema solution, employs Crown’s CTs Series amplifiers, Networking amplifier modules, and Crown’s DBC® Network Bridge for the first all-digital cinema solution.

CTS MULTI-CHANNEL

FEATURES

- High power density: Four-channel model in a 2U chassis, eight-channel model in a 3U chassis
- New Crown Switching Power Supply for lighter weight
- Selectable “Constant-Voltage” or low-impedance (4/8 ohm) operation per channel-pair
- 100V direct outputs
- New “FIT” (Fault Isolation Topology) circuitry isolates fault conditions without affecting neighboring channels
- Accept VCA-MC accessory modules

POWER OUTPUT*

	All channels driven			All channel pairs driven
Models	4-ohm Dual	8-ohm Dual	70V Dual	8-ohm Bridge
CTs 4200	**260W**	**180W**	**220W****	**520W**
CTs 8200	**200W**	**160W**	**200W****	**400W**

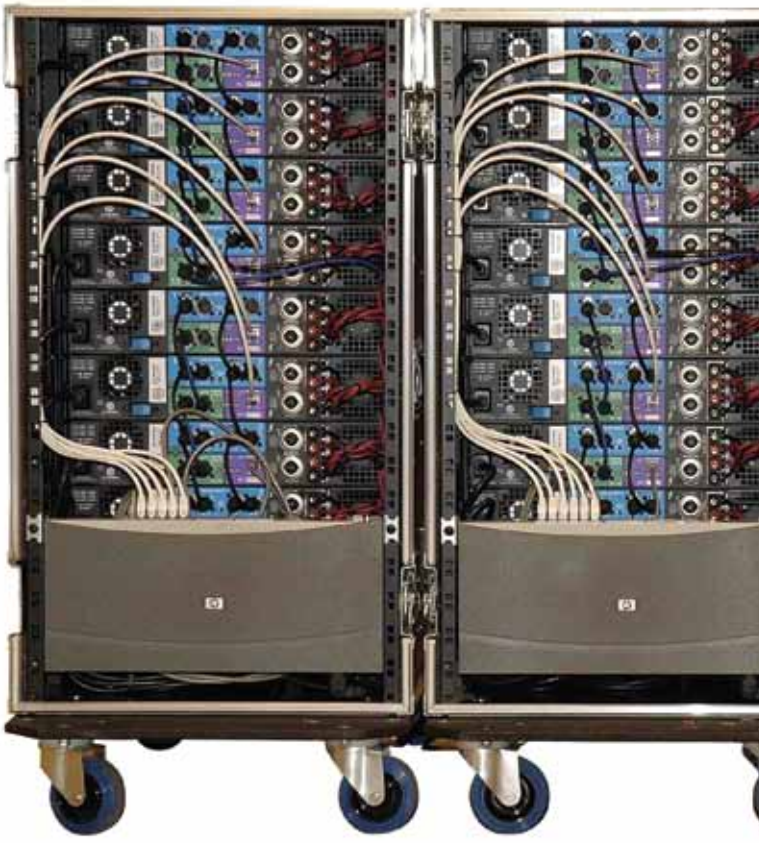
*Maximum average power in watts at 1kHz at 0.1% THD.
**Constant Voltage full-bandwidth power ratings support 100 Hz to 20 kHz due to automatic high-pass filters.

Emagine Entertainment Novi Movie Theater. Novi, Michigan, USA.

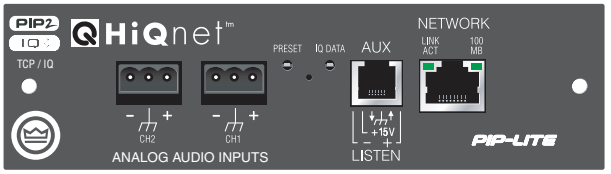
Note: *For more information about the products featured in this section, please refer to the following Crown sections: CTs 2-Channel, CTs Multi-Channel, XLS Series.*

NETWORKED &

Crown PIP Modules and Accessories



PRODUCTS ACCESSORIES



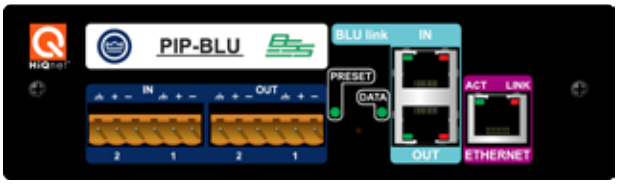
PIP LITE

SmartAmp Automation for Networked Audio

The Crown PIP LITE is a PIP (Programmable Input Processor) input module for CTs 2 channel amplifiers. The PIP-LITE connects to an audio control network via 100 Mb Ethernet. The audio path in the PIP LITE is processed totally in the analog domain. The SmartAmp™ feature set offers a range of automation functions which provide greater control over amplifier operation and helps to save both time and money.

FEATURES

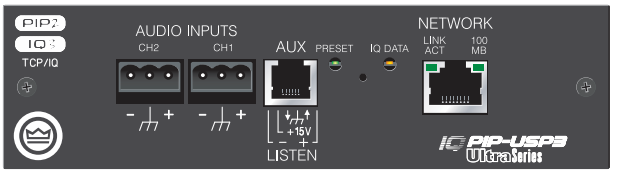
- A Programmable Input Processor with system networking capabilities (connects via 100 Mb Ethernet)
- Remote control and monitoring of CTs 2 channel
- Can be connected to the same network used to transmit CobraNet™ audio
- Implements SmartAmp features: input compressors, multimode output limiters, error reporting and load monitoring
- AUX connector with AUX input, AUX output, or Foldback



PIP BLU

The BSS & Crown® PIP-BLU is a PIP™ (Programmable Input Processor) input module for CTs 2 Channel Amplifiers (CTs 600,1200, 2000, 3000). It connects the amplifier to a 100 Mb Ethernet network allowing it to be remotely controlled and monitored using HiQnet™ London Architect as well as providing digital audio transport via BLU link.

The PIP-BLU offers 2 channels of audio via the Soundweb London digital audio bus informally known as BLU Link. This high bandwidth digital audio bus provides easy connectivity with fault tolerance. BLU link features a low latency, fault tolerant digital audio bus of 256 channels which uses standard Category 5e cabling giving a distance of 100m between compatible devices. The BSS Audio MC-1 fiber optic media converter can be used to increase the distance between devices to over 10km (6.2 miles) using single mode fiber.



PIP USP3/CN

SmartAmp Automation for TCP/IQ

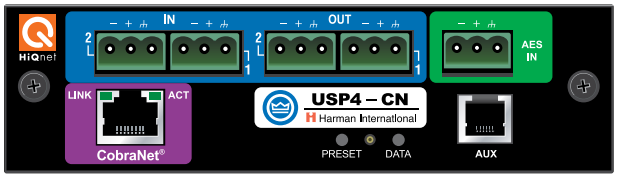
The Crown PIP-USP3/CN is a 3rd generation DSP-based PIP™ (Programmable Input Processor) input module for CTs 2 channel amplifiers.* It connects the amplifier to a 100 Mb Ethernet network allowing it to be remotely controlled and monitored. In addition, the USP3/CN allows the transport of real-time digital audio via CobraNet™ over the same Ethernet network.

FEATURES

- 100 Mb Ethernet single-plug solution for both CobraNet™ audio and networked control and monitoring
- Analog audio inputs allow audio input to the CobraNet™ network, CobraNet™ audio redundancy, or a hardwire emergency override of CobraNet™ audio
- Foldback amplifier output monitor via CobraNet™
- 24 bit digital to analog conversion with 32 bit, floating point DSP processing
- 64 assignable filters with 9 different filter types including all-pass filters

FEATURES

- Digital Audio Transport via BLU link
- Programmable Input Processor with HiQnet Control
- Remote control and monitoring of CTs 2 channel amplifiers
- 2 analog line level inputs and outputs for 2 x 2 BLU link I/O expansion
- Five Year, No-Fault, Fully Transferable Warranty completely protects your investment and guarantees its specifications
- Implements SmartAmp™ features
- Input compressors
- Multimode output limiters
- Error reporting
- Real time load monitoring



PIP USP4-CN

The Crown® PIP-USP4 is a 4th generation DSP-based PIP™ (Programmable Input Processor) input module for CTs Series two channel amplifiers. The USP4 connects to an Ethernet network allowing it to be remotely controlled and monitored via HiQnet, System Architect or London Architect. In addition, the USP4 allows the transport of real-time digital audio via AES3 and CobraNet™.

The USP4 is a HiQnet™ series component and connects to the audio control/monitor network using 100Mb Ethernet hardware (switches, Network Interface Cards, and cables). The CobraNet audio signal is available over the same 100Mb Ethernet network, providing a simple to install, single plug solution for audio distribution, control, and monitoring.

The USP4's OMNIDRIVE**HD**™ processor gives the user an enormous amount of digital signal processing. Level**MAX**™ limiters, proprietary FIR and IIR filters, audio routing, faders, meters, polarity & mute, compressors, delays, error reporting and load monitoring are all available. Built in noise and sine-wave generator provide noise masking and test capabilities. The enhanced AUX port allows users to interface with the USP4 to provide additional external control and monitoring.

Offering crisp clear sound and the widest dynamic range possible, the PIP-USP4 provides unprecedented power and flexibility in one compact—and very affordable—module.

FEATURES

- Onboard high-definition 96kHz OMNIDRIVE**HD**™ processing with 24-bit, 192 kHz Cirrus Logic A/D and D/A converters
- World-class FIR and IIR filters
- Level**MAX**™ peak, RMS and transducer thermal voltage power limiters combine for a smooth and accurate response, better sound, and higher usable SPL
- 100Mb Ethernet single-plug solution for CobraNet™ audio and HiQnet™ control and monitoring
- Auto Standby for increased energy efficiency
- Multiple Input Options Include: Analog, CobraNet™ or AES3 Digital Audio
- Digital Audio On/Off Ramp allows users to send pre or post processed analog signal out of the module to adjacent amplifiers
- Amplifier output monitor using the Foldback control through the CobraNet network
- SLM (Sweep Load Monitoring) with system-level diagnostics
- 64 assignable filters with 9 different filter types including all-pass filters
- Over 4 seconds of delay available per channel
- Input compressors for each channel
- Full error reporting
- Firmware upgrades via the network
- 50 user selectable presets
- Reliable FLASH memory backup of all parameters
- Five Year, No-Fault, Fully Transferable Warranty completely protects your investment and guarantees its specifications
- Ambient Leveler senses the ambient sound level of a room via the connected loudspeakers

ACCESSORIES

1-VCAP & 4-VCAP

FEATURES

- 1-VCAP provides remote volume control for one or more CTs amplifier channels
- Fits into a 1-gang electrical box
- 4-VCAP provides remote volume control for four or more CTs amplifier channels
- Fits into a 2-gang electrical box

Wall-Mount Controllers

Crown VCAP panels are wall-mounted panels with potentiometers that provide remote control of the volume of Crown CTs amplifier channels via a VCA-MC4 or VCA-MC8 module installed in the amplifier. Two models are available: 1-VCAP and 4-VCAP.

1-VCAP: Used in conjunction with a VCA-MC module, this is a 1-gang panel with one potentiometer that provides remote volume control for one or more CTs amplifier channels. The potentiometer on the panel is wired directly to the VCA connectors on the VCA-MC.

4-VCAP: This is a 2-gang panel with four potentiometers that provide remote volume control for four or more CTs amplifier channels. The potentiometers on the panel are wired directly to the VCA connectors on the VCA-MC.

VCA-MC4A & VCA-MC8

FEATURES

- Independent remote level control for each channel
- 4-pin removable Phoenix-style barrier connectors provide the +10VDC control voltage, ground, and control lines for two amplifier channels
- Optional wall-mount level control panels for use with VCA modules: 1-VCAP and 4-VCAP

Remote Level Control

The Crown VCA-MC4A and VCA-MC8 are optional level-control modules for the Crown CTs multi-channel power amplifiers. The VCA-MC4A is for the CTs 4200, and the VCA-MC8 is for the CTs 8200.

A VCA-MC module provides independent remote level control for each channel. 4-pin removable Phoenix-style barrier connectors provide the +10VDC control voltage, ground, and control lines for two amplifier channels. Thus, the 4-channel CTs 4200 uses two connectors; the 8-channel CTs 8200 uses four connectors. Crown CTs 4200 and 8200 amplifiers can be supplied with a VCA-MC module already factory-installed, or your choice of MC modules can be easily added to the amplifier by any authorized Crown Service Center.

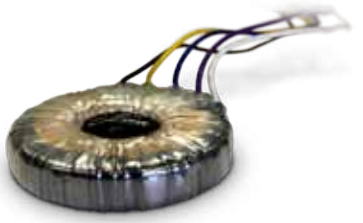
Choosing the Right Module

To order accessory modules for your amplifier, please refer to the model tag (located on the back panel of the amplifier) for your amplifier's specific model number. Then refer to the information below to select the correct accessory for your requirements.

CTs4200: VCA-MC4 or IQ-MC4
CTs 4200A: VCA-MC4A or IQ-MC4A
CTs 8200 or CTs 8200A: VCA-MC8 or IQ-MC8

Regulatory Certifications

For all CTs Multi-Channel Amp Accessories:



T-170V Constant-Voltage Transformer

The Crown **T-170V** is a single autoformer that provides impedance matching between an amplifier output and "constant voltage" loudspeakers. It allows amplifiers without direct 70V or 100V output capability to drive distributed speaker systems designed to operate at those voltages.

TP-170V Constant-Voltage Transformer Panel

The Crown® **TP-170V** is a rack-mountable panel with four autoformers to provide impedance matching between amplifier outputs and "constant voltage" loudspeakers. This unit allows amplifiers without direct 70V or 100V output capability to drive distributed speaker systems designed to operate at those voltages. The TP-170V is constructed of sturdy steel, and hinged on one side to allow easy access to the inside connections.

cya
(cover your amp)

3PLUS3 3+3 Extended Warranty

Crown's No-Fault, **3+3 Extended Warranty** package extends the terms of your original full warranty for an additional three years, thus covering years four through six. Available for Crown amplifiers only.

ACCESSORIES

XFMR-4 & XFMR-8

FEATURES

- Transformers provide four and eight channels of impedance matching for Constant-Voltage operation
- Provides 70V and 100V output when used only with Com-Tech DriveCore (CT 475, CT 875, CT 4150 and CT 8150)
- Allows amplifiers without direct Constant-Voltage capability to be easily integrated into distributed systems
- "Jumper" cables are provided to easily incorporate the XFMR unit with a Com-Tech DriveCore amplifier

Constant-Voltage Transformers

The Crown XFMR-4 and XFMR-8 are rack-mountable transformers to provide impedance matching between amplifier outputs and "constant voltage" loudspeakers. This unit allows amplifiers without direct 70V or 100V output capability to drive distributed speaker systems designed to operate at those voltages.

COMMERCIAL AUDIO ACCESSORIES

RM1 Rack-Mounting Kit

The Crown **RM1** is a single-unit rack-mounting kit. It is designed to be used with Commercial Audio models 135MA and 160MA mixer-amplifiers.

IST Isolation Transformer

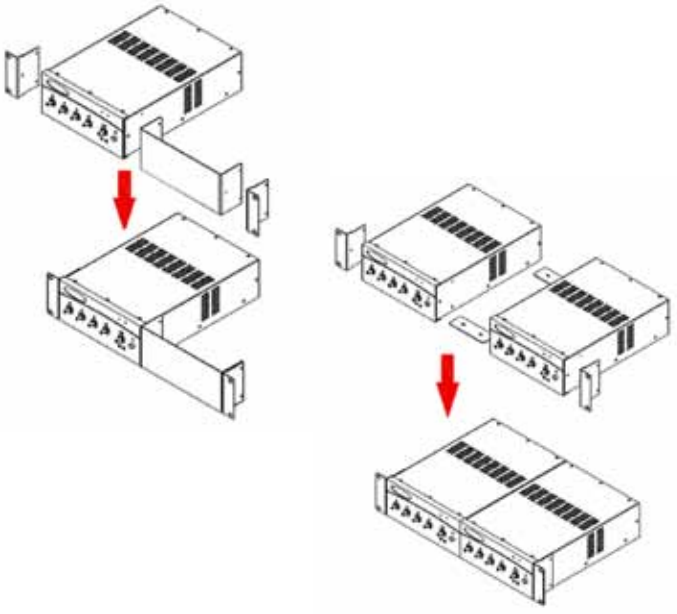
The Crown **IST** is a 600-ohm to 600-ohm isolation transformer used for telephone connectivity. It is designed to be used with Commercial Audio models 135MA and 160MA mixer-amplifiers.

RM2 Rack-Mounting Kit

The Crown **RM2** is a dual-unit rack-mounting kit. It is designed to be used with Commercial Audio models 135MA and 160MA mixer-amplifiers.

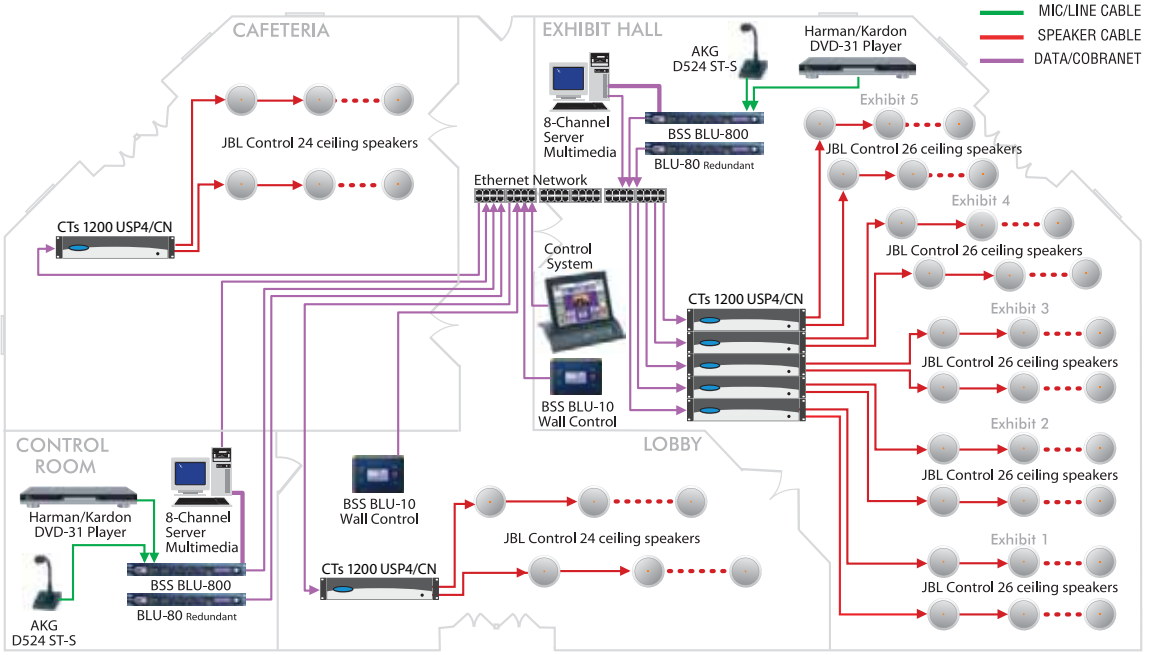
S-COVER Security Cover Bulk Pack

The Crown **S-COVER** is a 10-pack of security covers. It is designed to be used with Commercial Audio models 135MA and 160MA mixer-amplifiers.

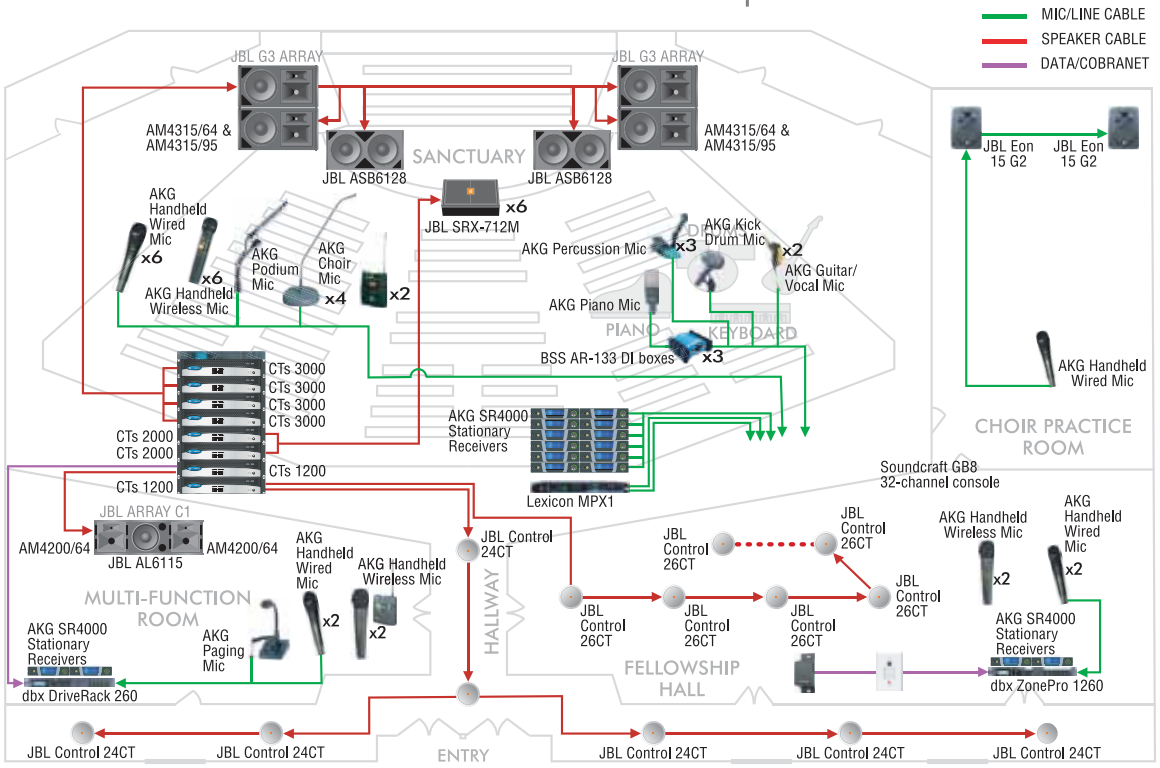


PRODUCT APPLICATIONS

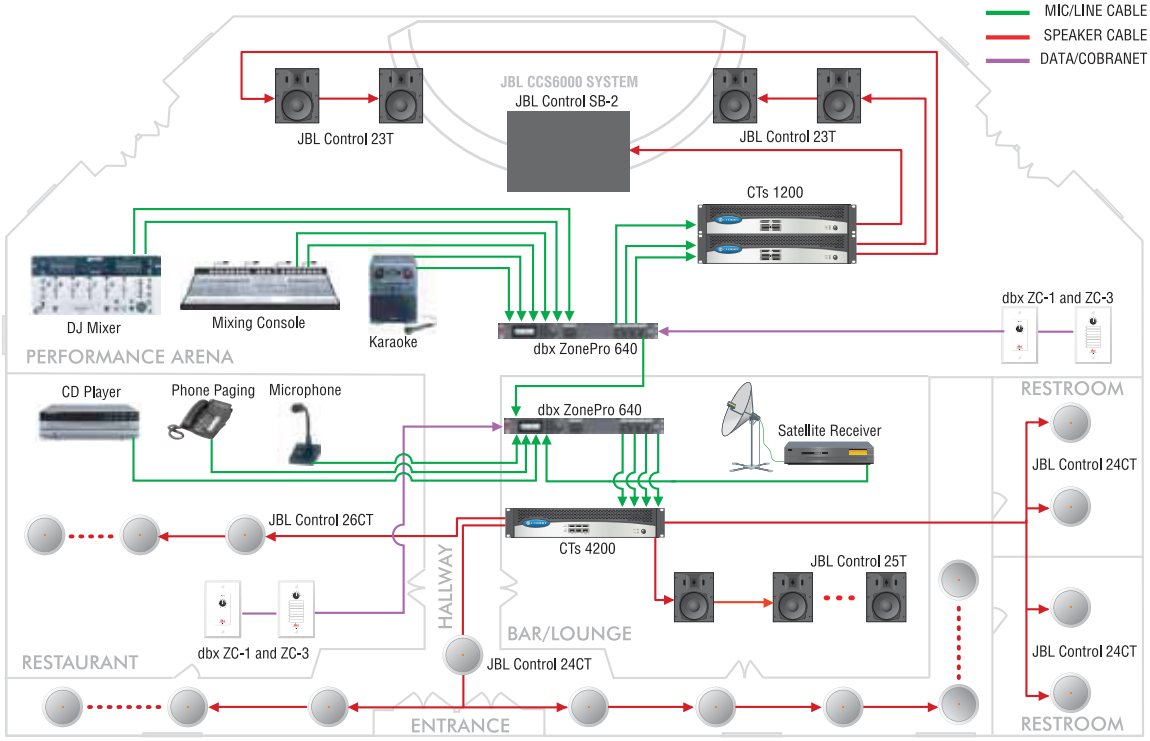
Museum Installation



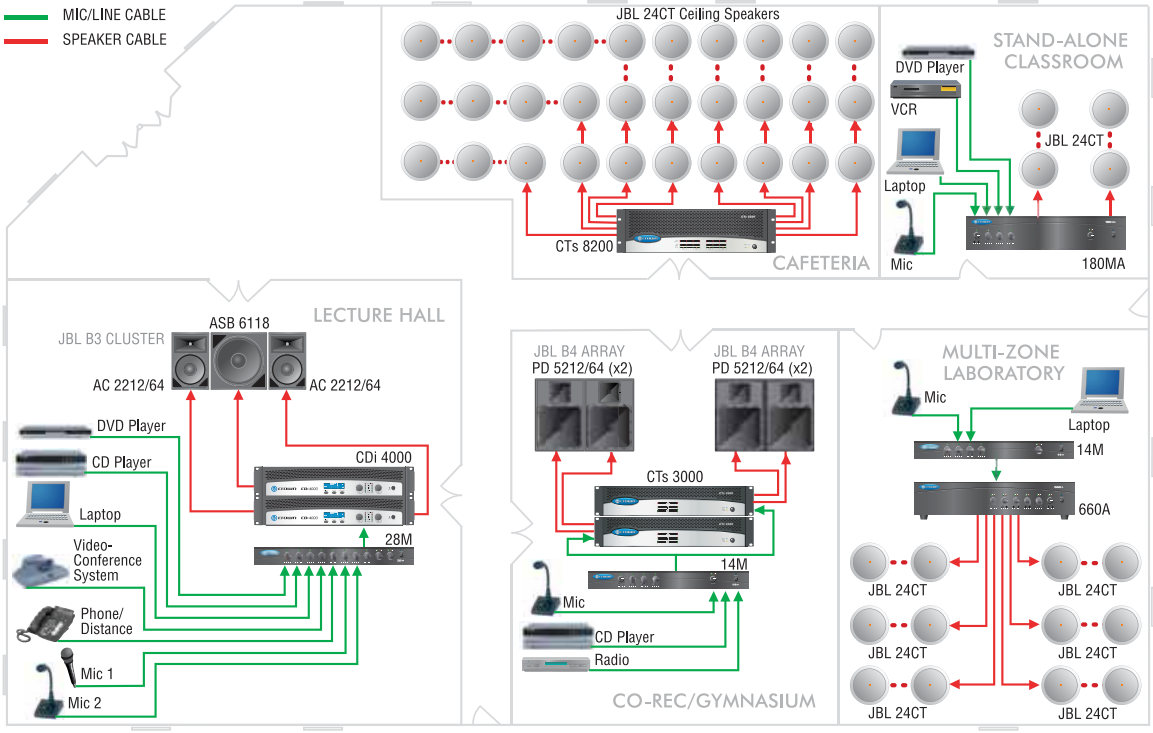
House of Worship



Nightclub & Restaurant

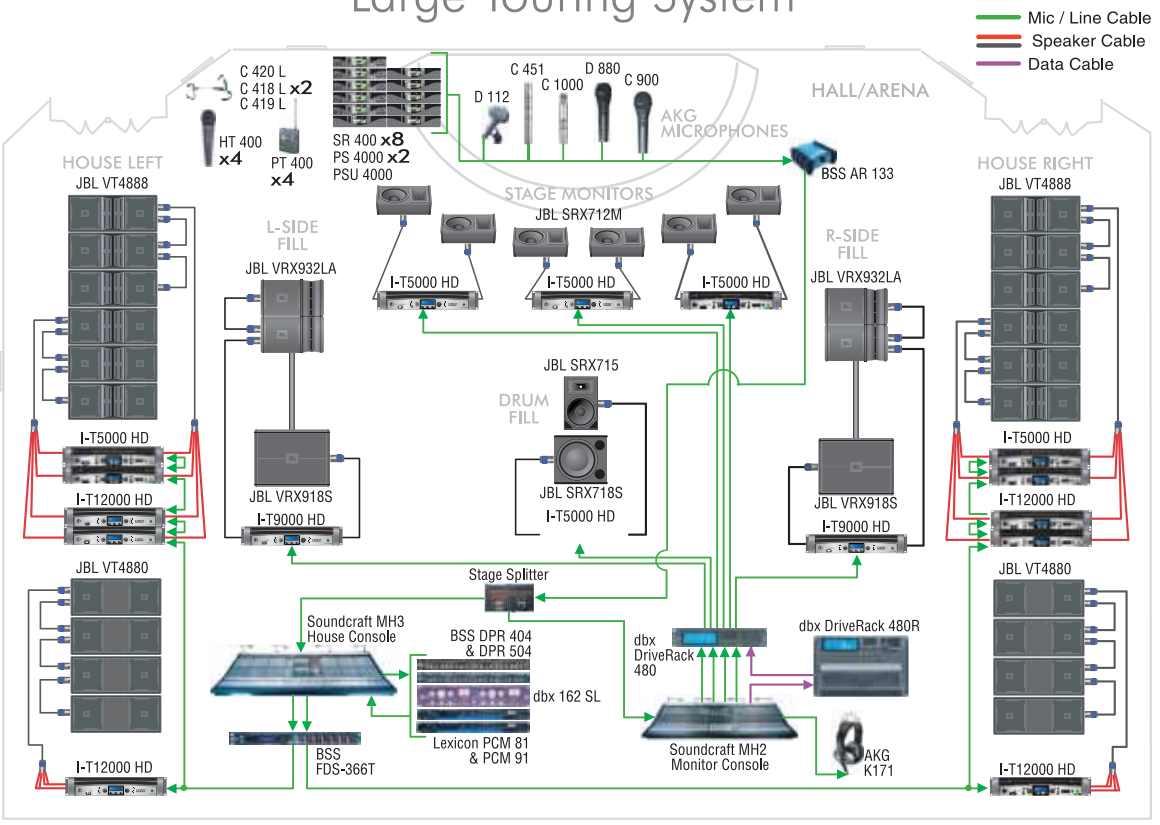


Education Facility

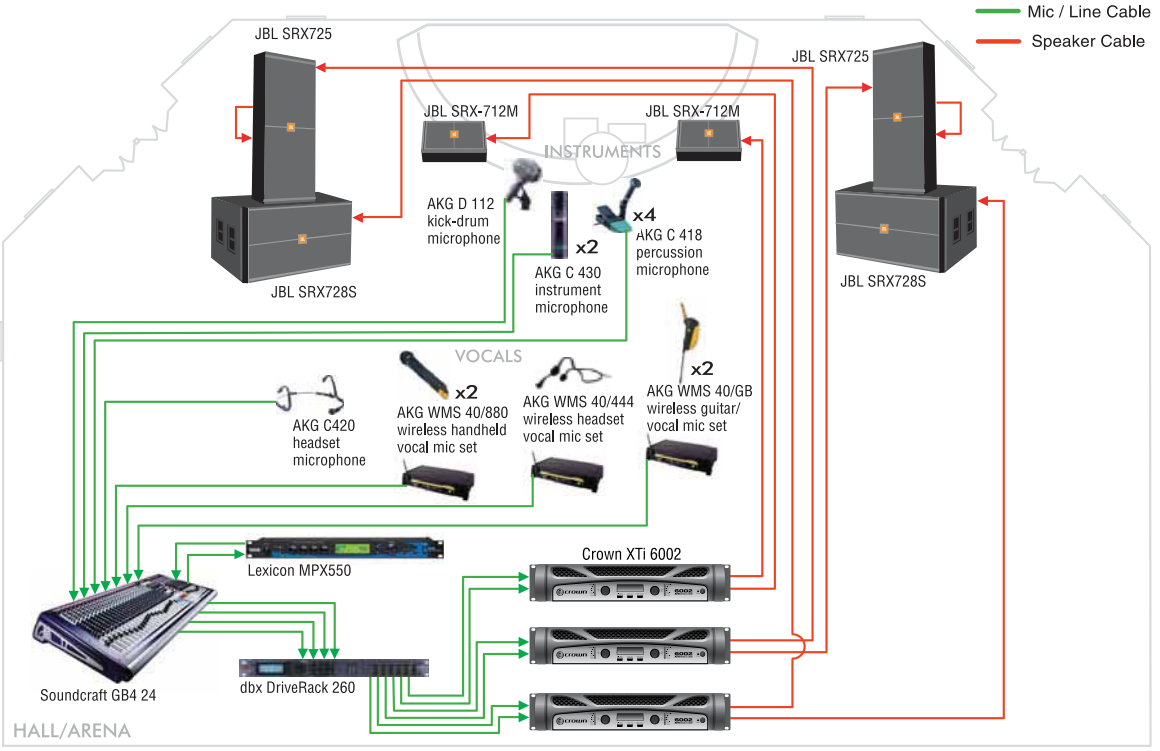


PRODUCT APPLICATIONS

Large Touring System



Live Band System



Crown Amplifier Warranty

USA AND CANADA

SUMMARY OF WARRANTY

Crown International, 1718 West Mishawaka Road, Elkhart, Indiana 46517-4095 U.S.A. warrants to you, the ORIGINAL PURCHASER and ANY SUBSEQUENT OWNER of each NEW Crown product, for a period of three or five (3 or 5) years from the date of purchase by the original purchaser (the "warranty period") that the new Crown product is free of defects in materials and workmanship. We further warrant the new Crown product regardless of the reason for failure, except as excluded in this Warranty. Products having a five (5) year warranty period include the CTs series, the MAi series, and the ITHD series; all other Crown products have a three (3) year warranty period.

Warranty is only valid within the country in which the product is purchased.

ITEMS EXCLUDED FROM THIS CROWN WARRANTY

This Crown Warranty is in effect only for failure of a new Crown product which occurred within the Warranty Period. It does not cover any product which has been damaged because of any intentional misuse, accident, negligence, or loss which is covered under any of your insurance contracts. This Crown Warranty also does not extend to the new Crown product if the serial number has been defaced, altered, or removed.

WHAT THE WARRANTOR WILL DO

We will remedy any defect, regardless of the reason for failure (except as excluded), by repair, replacement, or refund. We may not elect refund unless you agree, or unless we are unable to provide replacement, and repair is not practical or cannot be timely made. If a refund is elected, then you must make the defective or malfunctioning product available to us free and clear of all liens or other encumbrances. The refund will be equal to the actual purchase price, not including interest, insurance, closing costs, and other finance charges less a reasonable depreciation on the product from the date of original purchase. Warranty work can only be performed at our authorized service centers or at the factory. Warranty work for some products can only be performed at our factory. We will remedy the defect and ship the product from the service center or our factory within a reasonable time after receipt of the defective product at our authorized service center or our factory. All expenses in remedying the defect, including surface shipping costs in the United States, will be borne by us. (You must bear the expense of shipping the product between any foreign country and the port of entry in the United States including the return shipment, and all taxes, duties, and other customs fees for such foreign shipments.)

HOW TO OBTAIN WARRANTY SERVICE

You must notify us of your need for warranty service within the warranty period. All components must be shipped in a factory pack, which, if needed, may be obtained from us free of charge. Corrective action will be taken within a reasonable time of the date of receipt of the defective product by us or our authorized service center. If the repairs made by us or our authorized service center are not satisfactory, notify us or our authorized service center immediately.

DISCLAIMER OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

YOU ARE NOT ENTITLED TO RECOVER FROM US ANY INCIDENTAL DAMAGES RESULTING FROM ANY DEFECT IN THE NEW CROWN PRODUCT. THIS INCLUDES ANY DAMAGE TO ANOTHER PRODUCT OR PRODUCTS RESULTING FROM SUCH A DEFECT. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

WARRANTY ALTERATIONS

No person has the authority to enlarge, amend, or modify this Crown Warranty. This Crown Warranty is not extended by the length of time which you are deprived of the use of the new Crown product. Repairs and replacement parts provided under the terms of this Crown Warranty shall carry only the unexpired portion of this Crown Warranty.

DESIGN CHANGES

We reserve the right to change the design of any product from time to time without notice and with no obligation to make corresponding changes in products previously manufactured.

LEGAL REMEDIES OF PURCHASER

THIS CROWN WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. No action to enforce this Crown Warranty shall be commenced after expiration of the warranty period.

THIS STATEMENT OF WARRANTY SUPERSEDES ANY OTHERS CONTAINED IN THIS MANUAL FOR CROWN PRODUCTS. 12/11

Crown Amplifier Warranty

WORLDWIDE EXCEPT USA & CANADA

SUMMARY OF WARRANTY

Crown International, 1718 West Mishawaka Road, Elkhart, Indiana 46517-4095 U.S.A. warrants to you, the ORIGINAL PURCHASER and ANY SUBSEQUENT OWNER of each NEW Crown product, for a period of three (3) years from the date of purchase by the original purchaser (the "warranty period") that the new Crown product is free of defects in materials and workmanship, and we further warrant the new Crown product regardless of the reason for failure, except as excluded in this Warranty.

Warranty is only valid within the country in which the product is purchased.

1 Note: If your unit bears the name "Amcron," please substitute it for the name "Crown" in this warranty.

ITEMS EXCLUDED FROM THIS CROWN WARRANTY

This Crown Warranty is in effect only for failure of a new Crown product which occurred within the Warranty Period. It does not cover any product which has been damaged because of any intentional misuse, accident, negligence, or loss which is covered under any of your insurance contracts. This Crown Warranty also does not extend to the new Crown product if the serial number has been defaced, altered, or removed.

WHAT THE WARRANTOR WILL DO

We will remedy any defect, regardless of the reason for failure (except as excluded), by repair, replacement, or refund. We may not elect refund unless you agree, or unless we are unable to provide replacement, and repair is not practical or cannot be timely made. If a refund is elected, then you must make the defective or malfunctioning product available to us free and clear of all liens or other encumbrances. The refund will be equal to the actual purchase price, not including interest, insurance, closing costs, and other finance charges less a reasonable depreciation on the product from the date of original purchase. Warranty work can only be performed at our authorized service centers. We will remedy the defect and ship the product from the service center within a reasonable time after receipt of the defective product at our authorized service center.

HOW TO OBTAIN WARRANTY SERVICE

You must notify your local Crown importer of your need for warranty service within the warranty period. All components must be shipped in the original box. Corrective action will be taken within a reasonable time of the date of receipt of the defective product by our authorized service center. If the repairs made by our authorized service center are not satisfactory, notify our authorized service center immediately.

DISCLAIMER OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

YOU ARE NOT ENTITLED TO RECOVER FROM US ANY INCIDENTAL DAMAGES RESULTING FROM ANY DEFECT IN THE NEW CROWN PRODUCT. THIS INCLUDES ANY DAMAGE TO ANOTHER PRODUCT OR PRODUCTS RESULTING FROM SUCH A DEFECT.

WARRANTY ALTERATIONS

No person has the authority to enlarge, amend, or modify this Crown Warranty. This Crown Warranty is not extended by the length of time which you are deprived of the use of the new Crown product. Repairs and replacement parts provided under the terms of this Crown Warranty shall carry only the unexpired portion of this Crown Warranty.

DESIGN CHANGES

We reserve the right to change the design of any product from time to time without notice and with no obligation to make corresponding changes in products previously manufactured.

LEGAL REMEDIES OF PURCHASER

No action to enforce this Crown Warranty shall be commenced after expiration of the warranty period.

THIS STATEMENT OF WARRANTY SUPERSEDES ANY OTHERS CONTAINED IN THIS MANUAL FOR CROWN PRODUCTS. 9/07

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Some models may be exported under the name Amcron.

HARMAN

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